ENVIRONMENTAL NOTIFICATION FORM

Logan Express Parking Garage
Framingham, Massachusetts

January 2014

Prepared for:

Massachusetts Port Authority
One Harborside Drive, Suite 200S
Boston, MA 02128

Prepared by:

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January 15, 2014

Secretary Richard K. Sullivan Jr.
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900,
Boston, Massachusetts 02114

Subject: Logan Express Parking Garage, Framingham, Massachusetts

Dear Secretary Sullivan,

On behalf of the Massachusetts Port Authority (Massport), I am pleased to submit for your review the **Environmental Notification Form** (ENF) for a parking garage at the Logan Express facility in Framingham. As you are aware, the Logan Express system is a critical component of Massport's overall High Occupancy Vehicle (HOV) strategy for passenger and employee access to Boston Logan International Airport. The Logan Express network enables Massport to provide secure parking and frequent bus service from outlying area to all terminals at Logan Airport. These HOV improvements are particularly critical at a time when demand continues to increase for Logan Airport's limited parking supply.

As reported in Massport's *2011 Environmental Status and Planning Report* (ESPR) (EEA No. 3247), in 2011 the Logan Express system provided bus service to and from Logan Airport to greater than 1.1 million passengers and employees. Logan Express service provides the greatest share of HOV/Shared-Ride mode to Logan Airport, after the MBTA's Blue Line. As such, by reducing single-occupant vehicle use by passenger and employees going to Logan Airport, the Logan Express systems are consistent with Massport's long-range air quality and HOV strategies and the Massachusetts Department of Transportation's GreenDOT Policy initiatives and Statewide Mode Share Goal.

To facilitate greater public involvement, Massport requests that you agree to an extended 30-day public comment period for the ENF to begin on January 22, 2014, the publication date of the next *Environmental Monitor*, and to end on February 21, 2014. All parties on the distribution list will be sent a copy of the ENF. The ENF will be available for inspection at our offices as well as a number of public libraries (as shown on the ENF distribution list) and on Massport's website (www.massport.com).

Please feel free to contact me at (617) 568-3524 or at sdalzell@massport.com if you have any questions.

Sincerely,

Massachusetts Port Authority

Stewart Dalzell

Stewart Dalzell, Deputy Director
Economic Planning and Development

Enclosures

cc: D. Doane/Massport, D. DeGeorge, P.E./FST

Operating | Boston Logan International Airport • Port of Boston general cargo and passenger terminals • Hanscom Field • Boston Fish Pier • Commonwealth Pier (site of World Trade Center Boston) • Worcester Regional Airport

Commonwealth of Massachusetts

Executive Office of Energy and Environmental Affairs

Massachusetts Environmental Policy Act (MEPA) Office

Environmental Notification Form

For Office Use Only

EEA#: ______________

MEPA Analyst: ______________

The information requested on this form must be completed in order to submit a document electronically for review under the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: ***Logan Express Parking Garage***	
Street Address: ***Shoppers World Drive at Burr Street Extension***	
Municipality: ***Framingham***	Watershed: ***Concord River***
Universal Transverse Mercator Coordinates: ***VTM Zone 19, 4686290.23N, 302775.99E***	Latitude: ***42-18.23 north*** Longitude: ***71-23.57 west***
Estimated commencement date: ***May 2014***	Estimated completion date: ***March, 2015***
Project Type: ***Parking Garage***	Status of project design: ***15*** %complete
Proponent: ***Massachusetts Port Authority***	
Street Address: ***One Harborside Drive, Suite 200S***	

Municipality: ***Boston***	State: ***MA***	Zip Code: ***02128***
Name of Contact Person: ***Stewart Dalzell***		
Firm/Agency: ***Massachusetts Port Authority***	Street Address: ***One Harborside Drive, Suite 200S***	
Municipality: ***Boston***	State: ***MA***	Zip Code: ***02128***
Phone: ***617-568-3524***	Fax:	E-mail: ***sdalzell@massport.com***

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
☐Yes ☒No

If this is an Expanded Environmental Notification Form (ENF) (see 301 CMR 11.05(7)) or a Notice of Project Change (NPC), are you requesting:

a Single EIR? (see 301 CMR 11.06(8))	☐Yes ☐No
a Special Review Procedure? (see 301CMR 11.09)	☐Yes ☐No
a Waiver of mandatory EIR? (see 301 CMR 11.11)	☐Yes ☐No
a Phase I Waiver? (see 301 CMR 11.11)	☐Yes ☐No

(Note: Greenhouse Gas Emissions analysis must be included in the Expanded ENF.)

Which MEPA review threshold(s) does the project meet or exceed (see 301 CMR 11.03)?
301 CMR 11.03(6)(b)15. Construction of 300 or more New parking spaces at a single location.

Which State Agency Permits will the project require? ***State Building Permit, State Plumbing Permit, WPA Notice of Intent***

Identify any financial assistance or land transfer from an Agency of the Commonwealth, including the Agency name and the amount of funding or land area in acres:
The Massachusetts Port Authority, a public agency, will fund this project.

Summary of Project Size & Environmental Impacts	**Existing**	**Change**	**Total**
LAND			
Total site acreage ***(property plus limit of disturbance in street easement/ ROW)***	***5.05***		
New acres of land altered		***0***	
Acres of impervious area	***3.25***	***-0.10***	***3.14***
Square feet of new bordering vegetated wetlands alteration		***600***	
Square feet of new other wetland alteration		***0***	
Acres of new non-water dependent use of tidelands or waterways		***0***	
STRUCTURES			
Gross square footage	***2,305***	***106,335***	***108,660***
Number of housing units	***0***	***0***	***0***
Maximum height (feet)	***19***	***53***	***72***
TRANSPORTATION			
Vehicle trips per day	***2,450***	***635***	***3,085***
Parking spaces	***874***	***626***	***1,500***
WASTEWATER			
Water Use (Gallons per day)	***600***	***1,200***	***1,800***
Water withdrawal (GPD)	***0***	***0***	***0***
Wastewater generation/treatment (GPD)	***500***	***1,000***	***1,500***
Length of water mains (miles)	***0***	***0***	***0***
Length of sewer mains (miles)	***0***	***0***	***0***

Has this project been filed with MEPA before?
☒ Yes (EEA #***12412***) ☐No

Has any project on this site been filed with MEPA before?
☒ Yes (EEA #***12412***) ☐No

GENERAL PROJECT INFORMATION – all proponents must fill out this section

PROJECT DESCRIPTION: ***The Massachusetts Port Authority (Massport) is proposing improvements to the existing Logan Express parking facility in the Town of Framingham located in close proximity to the Massachusetts Turnpike (I-90) at the corner of Burr Street and Shoppers World Drive (Figure 1). As described in the attached materials, Massport secured approvals for a 1081, 4-level garage at this location in early 2001. Following the events of September 11, 2001, however, the proposed improvements were never constructed. Over the past several years, as passenger levels at Boston-Logan International Airport have returned to pre-2001 levels and beyond, ridership at Massport's Framingham Logan Express facility have similarly recovered. Between 2012 and 2013, the average daily parking demand for this location increased by 12%.***

To meet this increased demand, Massport now proposes to increase the parking capacity and consolidate four existing surface parking lots with a 5-level garage (grade plus four parking decks) to support 1,500 cars at this location. Construction of a single garage will alleviate the long-standing inefficiencies in serving the main parking lot and three additional off-site overflow parking locations and the inconveniences experienced by the users of the overflow sites.

Describe the existing conditions and land uses on the project site: ***The garage will be constructed over the existing paved parking lot and will also replace the existing bus terminal. Existing conditions are further described in Attachment 1, Project Description***

Describe the proposed project and its programmatic and physical elements: ***As further described in Attachment 1, Project Description, the project will expand and upgrade existing HOV facilities by constructing a new garage and bus terminal facility.***

Describe the on-site project alternatives (and alternative off-site locations, if applicable), considered by the proponent, including at least one feasible alternative that is allowed under current zoning, and the reasons(s) that they were not selected as the preferred alternative: ***The attached Project Description discusses the alternatives considered for the proposed Logan Express facility. Massport is exempt from local zoning requirements. However, the project is a continuation of the existing use and the garage would conform with the height restrictions found in the Business and Light Manufacturing zoning districts.***

Summarize the mitigation measures proposed to offset the impacts of the preferred alternative: ***Proposed avoidance, minimization, and mitigation measures are discussed in the attached Project Description.***

If the project is proposed to be constructed in phases, please describe each phase: ***This project anticipates construction of a 4-level, 1,100-space garage in 2014. If funding permits, a 5-level, 1,500-space garage will be constructed at the same time. The garage foundations will be designed to allow for future vertical expansion to 7 levels so that the proposed Framingham Logan Express garage will have the ability to meet demand if program ridership continues to grow. Massport has no immediate plans for expansion beyond 5 levels.***

AREAS OF CRITICAL ENVIRONMENTAL CONCERN:

Is the project within or adjacent to an Area of Critical Environmental Concern?

☐Yes (Specify)
☒No

if yes, does the ACEC have an approved Resource Management Plan? ___ Yes ___ No;
If yes, describe how the project complies with this plan.

Will there be stormwater runoff or discharge to the designated ACEC? ___ Yes ___ No;
If yes, describe and assess the potential impacts of such stormwater runoff/discharge to the designated ACEC.

RARE SPECIES:

Does the project site include Estimated and/or Priority Habitat of State-Listed Rare Species? (see http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/priority_habitat/priority_habitat_home.htm)

☐Yes (Specify) ☒No

Portions of the project include NHESP PH 1376 and/or EH 50 (Figure 5).

HISTORICAL /ARCHAEOLOGICAL RESOURCES:

Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?

☐Yes (Specify) ☒No

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources? ☐Yes (Specify) ☐No

WATER RESOURCES:

Is there an Outstanding Resource Water (ORW) on or within a half-mile radius of the project site?
___Yes ***X*** No; if yes, identify the ORW and its location.

Are there any impaired water bodies on or within a half-mile radius of the project site? __ Yes ***X*** No;
if yes, identify the water body and pollutant(s) causing the impairment:

Lake Cochituate (MA82125, Category 5) is 0.8 miles from the project site, and an unnamed tributary (MA82A-22, Category 5) is 0.6 miles from the project site.

Is the project within a medium or high stress basin, as established by the Massachusetts Water Resources Commission? ___ Yes ***X*** No

STORMWATER MANAGEMENT:

Generally describe the project's stormwater impacts and measures that the project will take to comply with the standards found in MassDEP's Stormwater Management Regulations:

The project is considered a redevelopment project and therefore the stormwater management system will be designed to meet stormwater standards to the maximum extent practicable, while improving upon existing conditions. Conformance with the stormwater standards will be achieved in accordance with the Massachusetts Stormwater Handbook (Jan 2008).

The proposed storm drainage facilities are comprised of an open and closed drainage system with specific Low Impact Development (LID) measures and Best Management Practices (BMPs) for controlling the stormwater discharges. LID/BMP's measures include the use of pervious pavement at selected locations, infiltration trenches and proprietary treatment unit. Existing stormwater basin and drainage outfalls will be retained and utilized as part of the stormwater management

system. Remaining components of the closed drainage system, including oil/grit separators will be abandoned or removed.

Roof runoff from the new facility will be directed to the new proprietary treatment unit prior to discharging to the existing stormwater basin, while runoff from the interior levels of the garage will be directed to the sewer system. Stormwater pollutants will be minimized as the roof parking will be only be used during peak operation, and snow-melting machines will be utilized in place of de-icing chemicals. Existing paved areas outside the proposed impervious footprint will be converted to lawn areas. Proposed site improvements will result in an overall decrease of pavement and impervious area within the project limits. As noted above, pervious pavement will be installed outside of the garage footprint within the valet parking and employee parking areas.

MASSACHUSETTS CONTINGENCY PLAN:

Has the project site been, or is it currently being, regulated under M.G.L.c.21E or the Massachusetts Contingency Plan? ***X*** Yes ___ No; if yes, please describe the current status of the site (including Release Tracking Number (RTN), cleanup phase, and Response Action Outcome classification):

The following list was obtained from the MassDEP Bureau of Waste Cleanup database:

Two RTNs exist on site:

RTN	***Site Name/Location Aid***	***Status***	***Class***	***Phase***
3-4286	***1 Worcester Road; Shoppers World Mall (current Logan Express Site)***	***WCSP RM***	***n/a***	***n/a***
3-21193	***1 Worcester Road; Shoppers World (Framingham Logan Express)***	***RAO***	***B1***	***n/a***

Two RTNs abut the site:

RTN	***Site Name/Location Aid***	***Status***	***Class***	***Phase***
3-13907	***375 Cochituate Road***	***RAO***	***A2***	***n/a***
3-15808	***Southwest Corner of Cochituate Road***	***DPS***	***n/a***	***n/a***

One RTN is at the northwest corner of Cochituate Road and Burr Street, in close proximity to the site.

RTN	***Site Name/Location Aid***	***Status***	***Class***	***Phase***
3-13200	***510 Cochituate Road***	***RAO***	***A2***	***III***

These environmental issues will be further investigated as project design progresses and results of previously drilled monitoring wells are reviewed. Massport's standard construction specifications include requirements for the proper management of contaminated soil and groundwater in the event that such conditions are encountered during excavation.

Is there an Activity and Use Limitation (AUL) on any portion of the project site? Yes ___ No ***X***;
if yes, describe which portion of the site and how the project will be consistent with the AUL:

Are you aware of any Reportable Conditions at the property that have not yet been assigned an RTN? Yes ___ No ; if yes, please describe:

SOLID AND HAZARDOUS WASTE:

If the project will generate solid waste during demolition or construction, describe alternatives considered for re-use, recycling, and disposal of, e.g., asphalt, brick, concrete, gypsum, metal, wood

For capital construction projects, Massport requires construction contractors to recycle the construction and demolition waste (C&D) generated by their projects. In May 2011, Massport began tracking the amount of materials recycled during capital construction projects. Between May and December 2011, Massport recycled almost all C&D materials from capital construction projects, 51,368 tons or 98 percent of C&D materials.

Will your project disturb asbestos containing materials? Yes ___ No ***X***;
if yes, please consult state asbestos requirements at http://mass.gov/MassDEP/air/asbhom01.htm

Describe anti-idling and other measures to limit emissions from construction equipment:

Massport's Sustainable Design Standards and Guidelines (SDSG) requires that all construction projects heavy construction equipment be equipped with diesel particulate filters or diesel oxidation catalysts in accordance with the Massachusetts Department of Environmental Protection (MassDEP) Clean Air Construction Initiative (CACI).

Furthermore, Massport will work closely with all bus operators to enforce all state and federal anti-idling regulations. Massport will also provide signage throughout the garage and pick-up drop-off areas reminding users of anti-idling requirements.

DESIGNATED WILD AND SCENIC RIVER:

Is this project site located wholly or partially within a defined river corridor of a federally designated Wild and Scenic River or a state designated Scenic River? Yes ___ No ***X***;
if yes, specify name of river and designation:

If yes, does the project have the potential to impact any of the "outstandingly remarkable" resources of a federally Wild and Scenic River or the stated purpose of a state designated Scenic River? Yes ___ No ___ ; if yes, specify name of river and designation: _____________;
if yes, will the project will result in any impacts to any of the designated "outstandingly remarkable" resources of the Wild and Scenic River or the stated purposes of a Scenic River. Yes ___ No ___ ;
if yes,describe the potential impacts to one or more of the "outstandingly remarkable" resources or stated purposes and mitigation measures proposed.

ATTACHMENTS:

1. List of all attachments to this document.
2. U.S.G.S. map (good quality color copy, 8-½ x 11 inches or larger, at a scale of 1:24,000) indicating the project location and boundaries.
3.. Plan, at an appropriate scale, of existing conditions on the project site and its immediate environs, showing all known structures, roadways and parking lots, railroad rights-of-way, wetlands and water bodies, wooded areas, farmland, steep slopes, public open spaces, and major utilities.
4 Plan, at an appropriate scale, depicting environmental constraints on or adjacent to the project site such as Priority and/or Estimated Habitat of state-listed rare species, Areas of Critical Environmental Concern, Chapter 91 jurisdictional areas, Article 97 lands, wetland resource area delineations, water supply protection areas, and historic resources and/or districts.
5. Plan, at an appropriate scale, of proposed conditions upon completion of project (if construction of the project is proposed to be phased, there should be a site plan showing conditions upon the completion of each phase).
6. List of all agencies and persons to whom the proponent circulated the ENF, in accordance with 301 CMR 11.16(2).
7. List of municipal and federal permits and reviews required by the project, as applicable.

Required Federal Permits

- ***Army Corps of Engineers Category 1 Section 404 Permit***
- ***National Pollutant Discharge Elimination System (NPDES) General Permit for Construction Activities***

Required Municipal Permits

- ***Massachusetts Wetlands Protection Act Order of Conditions from the Framingham Conservation Commission***

LAND SECTION – all proponents must fill out this section

I. Thresholds / Permits

A. Does the project meet or exceed any review thresholds related to **land** (see 301 CMR 11.03(1) ___ Yes ***X*** No; if yes, specify each threshold:

II. Impacts and Permits

A. Describe, in acres, the current and proposed character of the project site, as follows:

	Existing	Change	Total
Footprint of building	*0.05*	*2.45*	*2.50*
Internal roadways	*0*	*0*	*0*
Parking and other paved areas	*3.20*	*-2.55*	*0.65*
Other altered areas	*1.50*	*0.15*	*1.65*
Undeveloped areas	*0.30*	*-0.05*	*0.25*
Total: Project Site Acreage	***5.05***	***0.00***	***5.05***

B. Has any part of the project site been in active agricultural use in the last five years?
___ Yes ***X*** No; if yes, how many acres of land in agricultural use (with prime state or locally important agricultural soils) will be converted to nonagricultural use?

C. Is any part of the project site currently or proposed to be in active forestry use?
___ Yes ***X*** No; if yes, please describe current and proposed forestry activities and indicate whether any part of the site is the subject of a forest management plan approved by the Department of Conservation and Recreation:

D. Does any part of the project involve conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97? ___ Yes ***X*** No; if yes, describe:

E. Is any part of the project site currently subject to a conservation restriction, preservation restriction, agricultural preservation restriction or watershed preservation restriction?
___ Yes ***X*** No; if yes, does the project involve the release or modification of such restriction?
___ Yes ___ No; if yes, describe:

F. Does the project require approval of a new urban redevelopment project or a fundamental change in an existing urban redevelopment project under M.G.L.c.121A?
___ Yes ***X*** No; if yes, describe:

G. Does the project require approval of a new urban renewal plan or a major modification of an existing urban renewal plan under M.G.L.c.121B? Yes ___ No ***X***; if yes, describe:

III. Consistency

A. Identify the current municipal comprehensive land use plan
Title: ***Framingham Master Plan*** Date ***2012***

B. Describe the project's consistency with that plan with regard to:

1) **economic development**

The Framingham Master Plan outlines the need to "establish a strong transportation system between the major economic hubs within the Town and regional transportation." The Logan Express facility provides a key transit link to/from Logan Airport in the community. The Metro West Regional Transit Authority system can be accessed via a bus stop at Shopper's World, within walking distance from the Logan Express facility.

2) **adequacy of infrastructure**
This Logan Express facility is a key node in the regional transit system. Construction of a single garage will alleviate the inefficiencies of serving three separate parking locations and encourage growth in HOV access to Logan.

3) **open space impacts**
The project is consistent with goals to protect and preserve natural resource areas and ensure no net loss of total wetlands. Compensation for permanent impacts to wetlands will occur on-site at a 2:1 ratio. Additional mitigation measures will include cleaning up the debris on site and cleaning out the accumulated sediment in the non-vegetated areas at each outfall.

4) **compatibility with adjacent land uses**
The project supports the Master Plan goal to improve the transportation system within the Golden Triangle (district adjacent to Concord Street, Old Connecticut Path, Speen Street, Worcester road and Cochituate Road). The ability to serve a greater number of Logan Express users will also contribute to the overall goal to create a sustainable community (i.e. improved regional traffic conditions and air quality).

C. Identify the current Regional Policy Plan of the applicable Regional Planning Agency (RPA)
RPA: *Metropolitan Area Planning Council*

Title: *MetroFuture* Date *May 2008*

D. Describe the project's consistency with that plan with regard to:

1) **economic development**
The Logan Express facility provides a convenient service to/from Logan Airport for employees and people traveling for business and pleasure. An improved facility will be attractive to existing and future businesses, as well as workers that live in and commute from the area.

2) **adequacy of infrastructure**
Both the MetroFuture plan and Logan Express program strive to reduce traffic congestion and provide more alternative options for travel.

3) **open space impacts**
The project is consistent with the plan's goal to reduce greenhouse gas emissions and use less energy. The project aims to generate more trips to Logan Airport via high-occupancy vehicles and reduce traffic congestion.

RARE SPECIES SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **rare species or habitat** (see 301 CMR 11.03(2))? ___ Yes ***X*** No; if yes, specify, in quantitative terms:

(NOTE: If you are uncertain, it is recommended that you consult with the Natural Heritage and Endangered Species Program (NHESP) prior to submitting the ENF.)

B. Does the project require any state permits related to **rare species or habitat**? ___ Yes ***X*** No

C. Does the project site fall within mapped rare species habitat (Priority or Estimated Habitat?) in the current Massachusetts Natural Heritage Atlas (attach relevant page)? ___ Yes ***X*** No.

D. If you answered "No" to all questions A, B and C, proceed to the **Wetlands, Waterways, and Tidelands Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Rare Species section below.

II. Impacts and Permits

A. Does the project site fall within Priority or Estimated Habitat in the current Massachusetts Natural Heritage Atlas (attach relevant page)? ___ Yes ___ No. If yes,

1. Have you consulted with the Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program (NHESP)? ___ Yes ___No; if yes, have you received a determination as to whether the project will result in the “take” of a rare species? ___ Yes ___ No; if yes, attach the letter of determination to this submission.

2. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? ___ Yes ___ No; if yes, provide a summary of proposed measures to minimize and mitigate rare species impacts

3. Which rare species are known to occur within the Priority or Estimated Habitat?

4. Has the site been surveyed for rare species in accordance with the Massachusetts Endangered Species Act? ___ Yes ___ No

5. If your project is within Estimated Habitat, have you filed a Notice of Intent or received an Order of Conditions for this project? ___ Yes ___ No; if yes, did you send a copy of the Notice of Intent to the Natural Heritage and Endangered Species Program, in accordance with the Wetlands Protection Act regulations? ___ Yes ___ No

B. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? ___ Yes ___ No; if yes, provide a summary of proposed measures to minimize and mitigate impacts to significant habitat:

WETLANDS, WATERWAYS, AND TIDELANDS SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **wetlands, waterways, and tidelands** (see 301 CMR 11.03(3))? ___ Yes ***X*** No; if yes, specify, in quantitative terms:

B. Does the project require any state permits (or a local Order of Conditions) related to **wetlands, waterways, or tidelands**? ***X*** Yes ___ No; if yes, specify which permit:

Order of Conditions from the Framingham Conservation Commissions under the MA Wetlands Protection Act

C. If you answered "No" to both questions A and B, proceed to the **Water Supply Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wetlands, Waterways, and Tidelands Section below.

II. Wetlands Impacts and Permits

A. Does the project require a new or amended Order of Conditions under the Wetlands Protection Act (M.G.L. c.131A)? ***X*** Yes ___ No; if yes, has a Notice of Intent been filed? ***X*** Yes __ No; if yes, list the date and MassDEP file number: ***153-1303*** ; if yes, has a local Order of Conditions been issued? ___ Yes ***X*** No; Was the Order of Conditions appealed? ___ Yes ___ No.

Will the project require a Variance from the Wetlands regulations? ___Yes ***X*** No.

B. Describe any proposed permanent or temporary impacts to wetland resource areas located on the project site:

Approximately 600 square feet of permanent impacts to BVW are anticipated due to the construction of a footing in the northeast corner of the proposed building. These wetlands will be compensated on-site at a 2:1 ratio. The project is also within the 100-foot buffer area adjacent to the wetland system; however the overall impervious surface area on the site will decrease by approximately 4,000 sf.

C. Estimate the extent and type of impact that the project will have on wetland resources, and indicate whether the impacts are temporary or permanent:

Coastal Wetlands	Area (square feet) or Length (linear feet)	Temporary or Permanent Impact?
Land Under the Ocean	***0***	
Designated Port Areas	***0***	
Coastal Beaches	***0***	
Coastal Dunes	***0***	
Barrier Beaches	***0***	
Coastal Banks	***0***	
Rocky Intertidal Shores	***0***	
Salt Marshes	***0***	
Land Under Salt Ponds	***0***	
Land Containing Shellfish	***0***	
Fish Runs	***0***	
Land Subject to Coastal Storm Flowage	***0***	

Inland Wetlands		
Bank (lf)	***0***	
Bordering Vegetated Wetlands	***600 SF***	***Permanent***
Isolated Vegetated Wetlands	***0***	
Land Under Water	***0***	
Isolated Land Subject to Flooding	***0***	
Bordering Land Subject to Flooding	***0***	
Riverfront Area	***0***	

D. Is any part of the project:

1. proposed as a **limited project**? __ Yes ***X*** No; if yes, what is the area (in sf)?
2. the construction or alteration of a **dam**? ___ Yes ***X*** No; if yes, describe:
3. fill or structure in a **velocity zone** or **regulatory floodway**? ____ Yes ***X*** No
4. dredging or disposal of dredged material? ___ Yes ***X*** No; if yes, describe the volume of dredged material and the proposed disposal site:
5. a discharge to an **Outstanding Resource Water (ORW)** or an **Area of Critical Environmental Concern (ACEC)**? ___ Yes ***X*** No
6. subject to a wetlands restriction order? ___ Yes ***X*** No; if yes, identify the area (in sf):
7. located in buffer zones? ***X*** Yes ___No; if yes, how much (in sf) ***41,400***

E. Will the project:

1. be subject to a local wetlands ordinance or bylaw? ___ Yes ***X*** No
   Massport is exempt from local legislation as established in Section 2 of Massport's Enabling Act at "CHAPTER 465 OF THE ACTS OF 1956 AS AMENDED THROUGH AUGUST 7, 2010".
2. alter any federally-protected wetlands not regulated under state law? ___ Yes ***X*** No; if yes, what is the area (sf)?

III. Waterways and Tidelands Impacts and Permits

A. Does the project site contain waterways or tidelands (including filled former tidelands) that are subject to the Waterways Act, M.G.L.c.91? ___ Yes ***X*** No; if yes, is there a current Chapter 91 License or Permit affecting the project site? ___ Yes ***X*** No; if yes, list the date and license or permit number and provide a copy of the historic map used to determine extent of filled tidelands:

C. Does the project require a new or modified license or permit under M.G.L.c.91?
___ Yes ***X*** No; if yes, how many acres of the project site subject to M.G.L.c.91 will be for non-water-dependent use? Current ___ Change ___ Total ___
If yes, how many square feet of solid fill or pile-supported structures (in sf)?

C. For non-water-dependent use projects, indicate the following:
Area of filled tidelands on the site:____________________
Area of filled tidelands covered by buildings:____________
For portions of site on filled tidelands, list ground floor uses and area of each use:
____
Does the project include new non-water-dependent uses located over flowed tidelands?
Yes ___ No ___
Height of building on filled tidelands________________

Also show the following on a site plan: Mean High Water, Mean Low Water, Water-dependent Use Zone, location of uses within buildings on tidelands, and interior and exterior areas and facilities dedicated for public use, and historic high and historic low water marks.

D. Is the project located on landlocked tidelands? ___ Yes ***X*** No; if yes, describe the project's impact on the public's right to access, use and enjoy jurisdictional tidelands and describe measures the project will implement to avoid, minimize or mitigate any adverse impact:

E. Is the project located in an area where low groundwater levels have been identified by a municipality or by a state or federal agency as a threat to building foundations?
___Yes ***X*** No; if yes, describe the project's impact on groundwater levels and describe measures the project will implement to avoid, minimize or mitigate any adverse impact:

F. Is the project non-water-dependent **and** located on landlocked tidelands **or** waterways or tidelands subject to the Waterways Act **and** subject to a mandatory EIR? ___ Yes ***X*** No;
(NOTE: If yes, then the project will be subject to Public Benefit Review and Determination.)

G. Does the project include dredging? ___ Yes ***X*** No; if yes, answer the following questions:
What type of dredging? Improvement ___ Maintenance ___ Both ____
What is the proposed dredge volume, in cubic yards (cys) _________
What is the proposed dredge footprint ____length (ft) ___width (ft)____depth (ft);
Will dredging impact the following resource areas?
Intertidal Yes__ No__; if yes, ___ sq ft
Outstanding Resource Waters Yes__ No__; if yes, ___ sq ft
Other resource area (i.e. shellfish beds, eel grass beds)
Yes__ No__; if yes __ sq ft

If yes to any of the above, have you evaluated appropriate and practicable steps to:
1) avoidance; 2) if avoidance is not possible, minimization; 3) if either avoidance or minimize is not possible, mitigation?
If no to any of the above, what information or documentation was used to support this determination?
Provide a comprehensive analysis of practicable alternatives for improvement dredging in accordance with 314 CMR 9.07(1)(b). Physical and chemical data of the sediment shall be included in the comprehensive analysis.

Sediment Characterization
Existing gradation analysis results? __Yes ___No: if yes, provide results.
Existing chemical results for parameters listed in 314 CMR 9.07(2)(b)6?
___Yes ____No; if yes, provide results.

Do you have sufficient information to evaluate feasibility of the following management options for dredged sediment? If yes, check the appropriate option.

Beach Nourishment ___
Unconfined Ocean Disposal ___
Confined Disposal:
    Confined Aquatic Disposal (CAD) ___
    Confined Disposal Facility (CDF) ___
Landfill Reuse in accordance with COMM-97-001 ___
Shoreline Placement ___
Upland Material Reuse____
In-State landfill disposal____
Out-of-state landfill disposal ____
(NOTE: This information is required for a 401 Water Quality Certification.)

IV. Consistency:

A. Does the project have effects on the coastal resources or uses, and/or is the project located within the Coastal Zone? ___ Yes ***X*** No; if yes, describe these effects and the projects consistency with the policies of the Office of Coastal Zone Management:

B. Is the project located within an area subject to a Municipal Harbor Plan? ___ Yes ***X*** No; if yes, identify the Municipal Harbor Plan and describe the project's consistency with that plan:

WATER SUPPLY SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **water supply** (see 301 CMR 11.03(4))? ___ Yes ***X*** No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **water supply**? ___ Yes ***X*** No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Wastewater Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Water Supply Section below.

II. Impacts and Permits

A. Describe, in gallons per day (gpd), the volume and source of water use for existing and proposed activities at the project site:

	Existing	Change	Total
Municipal or regional water supply	________	________	________
Withdrawal from groundwater	________	________	________
Withdrawal from surface water	________	________	________
Interbasin transfer	________	________	________

(NOTE: Interbasin Transfer approval will be required if the basin and community where the proposed water supply source is located is different from the basin and community where the wastewater from the source will be discharged.)

B. If the source is a municipal or regional supply, has the municipality or region indicated that there is adequate capacity in the system to accommodate the project? ___ Yes ___ No

C. If the project involves a new or expanded withdrawal from a groundwater or surface water source, has a pumping test been conducted? ___ Yes ___ No; if yes, attach a map of the drilling sites and a summary of the alternatives considered and the results. ______________

D. What is the currently permitted withdrawal at the proposed water supply source (in gallons per day)? _____Will the project require an increase in that withdrawal? ___Yes ___No; if yes, then how much of an increase (gpd)? ____________________

E. Does the project site currently contain a water supply well, a drinking water treatment facility, water main, or other water supply facility, or will the project involve construction of a new facility? ___ Yes ___No. If yes, describe existing and proposed water supply facilities at the project site:

	Permitted Flow	Existing Avg Daily Flow	Project Flow	Total
Capacity of water supply well(s) (gpd)	_______	________	________	________
Capacity of water treatment plant (gpd)	_______	________	________	________

F. If the project involves a new interbasin transfer of water, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or proposed?

G. Does the project involve:

1. new water service by the Massachusetts Water Resources Authority or other agency of the Commonwealth to a municipality or water district? ___ Yes ___ No
2. a Watershed Protection Act variance? ___ Yes ___ No; if yes, how many acres of alteration?
3. a non-bridged stream crossing 1,000 or less feet upstream of a public surface drinking water supply for purpose of forest harvesting activities? ___ Yes ___ No

III. Consistency

Describe the project's consistency with water conservation plans or other plans to enhance water resources, quality, facilities and services:

WASTEWATER SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **wastewater** (see 301 CMR 11.03(5))? ___ Yes ***X*** No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **wastewater**? ___ Yes ***X*** No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Transportation -- Traffic Generation Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wastewater Section below.

II. Impacts and Permits

A. Describe the volume (in gallons per day) and type of disposal of wastewater generation for existing and proposed activities at the project site (calculate according to 310 CMR 15.00 for septic systems or 314 CMR 7.00 for sewer systems):

	Existing	Change	Total
Discharge of sanitary wastewater	________	________	________
Discharge of industrial wastewater	________	________	________
TOTAL	________	________	________

	Existing	Change	Total
Discharge to groundwater	________	________	________
Discharge to outstanding resource water	________	________	________
Discharge to surface water	________	________	________
Discharge to municipal or regional wastewater facility	________	________	________
TOTAL	________	________	________

B. Is the existing collection system at or near its capacity? ___ Yes ___ No; if yes, then describe the measures to be undertaken to accommodate the project's wastewater flows:

C. Is the existing wastewater disposal facility at or near its permitted capacity? ___ Yes___ No; if yes, then describe the measures to be undertaken to accommodate the project's wastewater flows:

D. Does the project site currently contain a wastewater treatment facility, sewer main, or other wastewater disposal facility, or will the project involve construction of a new facility?
___ Yes ___ No; if yes, describe as follows:

	Permitted	Existing Avg Daily Flow	Project Flow	Total
Wastewater treatment plant capacity (in gallons per day)	_______	________	________	________

E. If the project requires an interbasin transfer of wastewater, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or new?

(NOTE: Interbasin Transfer approval may be needed if the basin and community where wastewater will be discharged is different from the basin and community where the source of water supply is located.)

F. Does the project involve new sewer service by the Massachusetts Water Resources Authority (MWRA) or other Agency of the Commonwealth to a municipality or sewer district? ___ Yes ___ No

G. Is there an existing facility, or is a new facility proposed at the project site for the storage, treatment, processing, combustion or disposal of sewage sludge, sludge ash, grit, screenings, wastewater reuse (gray water) or other sewage residual materials? ___ Yes ___ No; if yes, what is the capacity (tons per day):

	Existing	Change	Total
Storage	________	________	________
Treatment	________	________	________
Processing	________	________	________
Combustion	________	________	________
Disposal	________	________	________

H. Describe the water conservation measures to be undertaken by the project, and other wastewater mitigation, such as infiltration and inflow removal.

III. Consistency

A. Describe measures that the proponent will take to comply with applicable state, regional, and local plans and policies related to wastewater management:

B. If the project requires a sewer extension permit, is that extension included in a comprehensive wastewater management plan? ___ Yes ___ No; if yes, indicate the EEA number for the plan and whether the project site is within a sewer service area recommended or approved in that plan:

TRANSPORTATION SECTION (TRAFFIC GENERATION)

I. Thresholds / Permit

A. Will the project meet or exceed any review thresholds related to **traffic generation** (see 301 CMR 11.03(6))? ___ Yes ***X*** No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **state-controlled roadways**? ___ Yes ***X*** No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Roadways and Other Transportation Facilities Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Traffic Generation Section below.

II. Traffic Impacts and Permits

A. Describe existing and proposed vehicular traffic generated by activities at the project site:

	Existing	Change	Total
Number of parking spaces	_______	________	_______
Number of vehicle trips per day	________	________	________
ITE Land Use Code(s):	________	________	________

B. What is the estimated average daily traffic on roadways serving the site?

Roadway	Existing	Change	Total
1. ___________________	________	________	________
2. ____________________	________	________	________
3. ____________________	________	________	________

C. If applicable, describe proposed mitigation measures on state-controlled roadways that the project proponent will implement:

D. How will the project implement and/or promote the use of transit, pedestrian and bicycle facilities and services to provide access to and from the project site?

C. Is there a Transportation Management Association (TMA) that provides transportation demand management (TDM) services in the area of the project site? ____ Yes ____ No; if yes, describe if and how will the project will participate in the TMA:

D. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation facilities? ____ Yes ____ No; if yes, generally describe:

E. If the project will penetrate approach airspace of a nearby airport, has the proponent filed a Massachusetts Aeronautics Commission Airspace Review Form (780 CMR 111.7) and a Notice of Proposed Construction or Alteration with the Federal Aviation Administration (FAA) (CFR Title 14 Part 77.13, forms 7460-1 and 7460-2)?

III. Consistency

Describe measures that the proponent will take to comply with municipal, regional, state, and federal plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services:

TRANSPORTATION SECTION (ROADWAYS AND OTHER TRANSPORTATION FACILITIES)

I. Thresholds

A. Will the project meet or exceed any review thresholds related to **roadways or other transportation facilities** (see 301 CMR 11.03(6))? ***X*** Yes ___ No; if yes, specify, in quantitative terms:

Construction of 626 new spaces (226 new spaces included in 2014/2015 construction and 400 more in future construction).

B. Does the project require any state permits related to **roadways or other transportation facilities**? ___ Yes ***X*** No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Energy Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Roadways Section below.

II. Transportation Facility Impacts

A. Describe existing and proposed transportation facilities in the immediate vicinity of the project site:

The project site itself is a public transportation facility. It serves as a transfer point between automobiles and high-occupancy vehicle (bus) service to Logan Airport in Boston, as well as a private long-distance bus company. The site is convenient to Metro West residents/visitors with easy access from/to I-90, Route 9, Route 30, Route 126, and the Metro West Regional Transit Authority bus line.

*******See General Project Description (Attachment 1) for additional details*******

B. Will the project involve any

1.	Alteration of bank or terrain (in linear feet)?	***0***
2.	Cutting of living public shade trees (number)?	***0***
3.	Elimination of stone wall (in linear feet)?	***0***

III. Consistency -- Describe the project's consistency with other federal, state, regional, and local plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services, including consistency with the applicable regional transportation plan and the Transportation Improvements Plan (TIP), the State Bicycle Plan, and the State Pedestrian Plan:

The Logan Express operation complies with the goals of municipal, regional, state, and federal policy to encourage increased use of high-occupancy, public transportation and, in so-doing, decrease traffic volumes. With regard to the latter, Massport's entire Logan Express operation, including the Framingham site, has been particularly effective in reducing traffic levels on key roadways, particularly the harbor tunnels, leading to Logan Airport. It also has been effective in reducing demand for parking at Logan Airport. Resulting reduced traffic levels have had a positive effect on regional air quality. Similarly, the public transportation service provided at the Framingham site by Peter Pan and Greyhound also helps to reduce regional traffic volumes by providing an alternative to automobile usage. Massport will continue to encourage these uses.

The proposed improvements to the Framingham Logan Express site will serve to provide continuing and increased encouragement to use the public transportation services operating from that location through the provision of various amenities. Key among these amenities will be the

provision of secure parking, much of it under roof, at one central location. Customer convenience and operational efficiency of the bus service will be increased by eliminating the need to provide overflow parking at remote locations. The increase in the total number of spaces being provided for the Framingham operation will further serve to promote increased use of the high-occupancy vehicles that provide service to and from the terminal facility.

The design of the project will also enhance passenger safety by minimizing the conflict of passengers crossing the current bus way at grade.

ENERGY SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **energy** (see 301 CMR 11.03(7))?
___ Yes ***X*** No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **energy**? ___ Yes ***X*** No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Air Quality Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Energy Section below.

II. Impacts and Permits

A. Describe existing and proposed energy generation and transmission facilities at the project site:

	Existing	Change	Total
Capacity of electric generating facility (megawatts)	________	________	________
Length of fuel line (in miles)	________	________	________
Length of transmission lines (in miles)	________	________	________
Capacity of transmission lines (in kilovolts)	________	________	________

B. If the project involves construction or expansion of an electric generating facility, what are:

1. the facility's current and proposed fuel source(s)?
2. the facility's current and proposed cooling source(s)?

C. If the project involves construction of an electrical transmission line, will it be located on a new, unused, or abandoned right of way? ___Yes ___No; if yes, please describe:

D. Describe the project's other impacts on energy facilities and services:

III. Consistency

Describe the project's consistency with state, municipal, regional, and federal plans and policies for enhancing energy facilities and services:

AIR QUALITY SECTION

I. Thresholds

A. Will the project meet or exceed any review thresholds related to **air quality** (see 301 CMR 11.03(8))? ___ Yes ***X*** No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **air quality**? ___ Yes ***X*** No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Solid and Hazardous Waste Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Air Quality Section below.

II. Impacts and Permits

A. Does the project involve construction or modification of a major stationary source (see 310 CMR 7.00, Appendix A)? ___ Yes ___ No; if yes, describe existing and proposed emissions (in tons per day) of:

	Existing	Change	Total
Particulate matter	________	________	________
Carbon monoxide	________	________	________
Sulfur dioxide	________	________	________
Volatile organic compounds	________	________	________
Oxides of nitrogen	________	________	________
Lead	________	________	________
Any hazardous air pollutant	________	________	________
Carbon dioxide	________	________	________

B. Describe the project's other impacts on air resources and air quality, including noise impacts:

III. Consistency

A. Describe the project's consistency with the State Implementation Plan:

B. Describe measures that the proponent will take to comply with other federal, state, regional, and local plans and policies related to air resources and air quality:

SOLID AND HAZARDOUS WASTE SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **solid or hazardous waste** (see 301 CMR 11.03(9))? ___ Yes *X* No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **solid and hazardous waste**?
___ Yes *X* No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Historical and Archaeological Resources Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Solid and Hazardous Waste Section below.

II. Impacts and Permits

A. Is there any current or proposed facility at the project site for the storage, treatment, processing, combustion or disposal of solid waste? ___ Yes ___ No; if yes, what is the volume (in tons per day) of the capacity:

	Existing	Change	Total
Storage	________	________	________
Treatment, processing	________	________	________
Combustion	________	________	________
Disposal	________	________	________

B. Is there any current or proposed facility at the project site for the storage, recycling, treatment or disposal of hazardous waste? ___ Yes ___ No; if yes, what is the volume (in tons or gallons per day) of the capacity:

	Existing	Change	Total
Storage	________	________	________
Recycling	________	________	________
Treatment	________	________	________
Disposal	________	________	________

C. If the project will generate solid waste (for example, during demolition or construction), describe alternatives considered for re-use, recycling, and disposal:

D. If the project involves demolition, do any buildings to be demolished contain asbestos?
___ Yes ___ No

E. Describe the project's other solid and hazardous waste impacts (including indirect impacts):

III. Consistency

Describe measures that the proponent will take to comply with the State Solid Waste Master Plan:

HISTORICAL AND ARCHAEOLOGICAL RESOURCES SECTION

I. Thresholds / Impacts

A. Have you consulted with the Massachusetts Historical Commission? ***X*** Yes ___ No; if yes, attach correspondence. For project sites involving lands under water, have you consulted with the Massachusetts Board of Underwater Archaeological Resources? ____Yes ____ No; if yes, attach correspondence

A letter dated November 7, 2013 was sent to MHC requesting concurrence that the existing Logan Express building and site in Framingham are not listed or eligible for listing on the National Register of Historic Places, and that the proposed action does not constitute an Adverse Effect under M.G.L. Chapter 9, Sections 26-27C, as amended by Chapter 254 of the Acts of 1988 [950 CMR 71.04(2)].

B. Is any part of the project site a historic structure, or a structure within a historic district, in either case listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? ___ Yes ***X*** No; if yes, does the project involve the demolition of all or any exterior part of such historic structure? ___ Yes ___ No; if yes, please describe:

C. Is any part of the project site an archaeological site listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? ___ Yes ***X*** No; if yes, does the project involve the destruction of all or any part of such archaeological site? ___ Yes ___ No; if yes, please describe:

D. If you answered "No" to all parts of both questions A, B and C, proceed to the **Attachments and Certifications** Sections. If you answered "Yes" to any part of either question A or question B, fill out the remainder of the Historical and Archaeological Resources Section below.

II. Impacts

Describe and assess the project's impacts, direct and indirect, on listed or inventoried historical and archaeological resources:

The Massachusetts Historical Commission determined that this project is unlikely to affect significant historical or archeological resources. See Attachment 5.

III. Consistency

Describe measures that the proponent will take to comply with federal, state, regional, and local plans and policies related to preserving historical and archaeological resources:

No historical/archaeological resources have been identified at the project site (see II. Impacts, above).

CERTIFICATIONS:

1. The Public Notice of Environmental Review has been/will be published in the following newspapers in accordance with 301 CMR 11.15(1):

   Name) *Metrowest Daily News* Date) *on or before January 22, 2014*

2. This form has been circulated to Agencies and Persons in accordance with 301 CMR 11.16(2).

Signatures:

1/10/14 1/10/2014 Hillary King

Date Signature of Responsible Officer or Proponent

Date Signature of person preparing NPC (if different from above)

Stewart Dalzell Name (print or type)	*Hillary B. King* Name (print or type)
Massachusetts Port Authority Firm/Agency	*Fay, Spofford & Thorndike* Firm/Agency
One Harborside Drive, Suite 200S Street	*5 Burlington Woods* Street
Boston, MA 02128 Municipality/State/Zip	*Burlington, MA 01803* Municipality/State/Zip
617-568-3524 Phone	*781-221-1244* Phone

Logan Express Parking Garage
Framingham, Massachusetts

List of Attachments

ATTACHMENT 1	Project Narrative
ATTACHMENT 2	Project Locus Maps
ATTACHMENT 3	Project Plans
ATTACHMENT 4	ENF Circulation List
ATTACHMENT 5	Correspondence
ATTACHMENT 6	Traffic Impact and Access Study
ATTACHMENT 7	Previous ENF Certificate

ATTACHMENT 1
Project Narrative

Logan Express Parking Garage
Framingham, Massachusetts

PROJECT DESCRIPTION

Introduction

The Massachusetts Port Authority (Massport) is proposing improvements to the existing Logan Express parking facility in the Town of Framingham located in close proximity to the Massachusetts Turnpike (I-90) at the corner of Burr Street and Shoppers World Drive (Figure 1). As described below, Massport secured approvals for a garage at this location in early 2001. Following the events of September 11, 2001, however, the proposed improvements were never constructed. Over the past several years, as passenger levels at Boston-Logan International Airport have returned to pre-2001 levels and beyond, ridership at Massport's Framingham Logan Express facility have similarly recovered. Between 2012 and 2013, the average daily parking demand for this location increased by 12%.

To meet this existing and projected demand, Massport is proposing to increase the parking capacity and consolidate four existing surface parking lots with a phased 5-level garage (grade plus four parking decks) to support up to 1,500 cars at this facility. Construction of a single garage with an integrated terminal building will add to Massport's High Occupancy Vehicle (HOV) capacity for passengers and employees, enhance customer service, and alleviate the inefficiencies experienced today in serving the three separate overflow parking lots which for over 15 years have comprised the Framingham Logan Express facility.

This project anticipates construction of a 4-level, 1,100-space garage in 2014. If funding permits, a 5-level, 1,500-space garage will be constructed. The garage will be designed to allow for future vertical expansion to 7 levels so that the proposed Framingham Logan Express garage will have the ability to meet demand if program ridership continues to grow. Massport has no immediate plans for expansion beyond 5 levels.

Prior MEPA Filing

An ENF was filed by Massport for the construction of a 1,081 space garage at this site in January, 2001 (EEA#12412, see Attachment 7). On February 23, 2001, the Secretary determined that the preparation an Environmental Impact Report (EIR) was not required. That project was not constructed. The current proposal will increase the facility's capacity by 626 spaces, and therefore exceeds the MEPA review threshold for filing an ENF (301 CMR 11.03(6)(b)15: Construction of 300 or more New parking spaces at a single location). The project does not exceed any mandatory EIR thresholds.

Purpose and Need

The purpose of this project is to expand reliable and convenient access for HOV service to Boston Logan International Airport for passengers and employees in the MetroWest/Framingham area. Currently, the Framingham Logan Express facility can accommodate up to approximately 875 vehicles, though existing demand can exceed that capacity during Logan's seasonal peak traveling periods.

Over the past several years, on-airport parking demand at Logan has routinely exceeded capacity. In response, Massport continues to heavily promote the use of the four Logan Express sites, particularly during peak travel periods. In addition to more frequent service at the most heavily used locations and reduced parking rates at all locations, seasonal promotions have included fare reductions. As a result, parking demand now exceeds capacity at Logan Express sites, particularly at the Framingham location. As described below, use of the adjacent overflow lots require additional bus stops and even these locations are now periodically unable to meet demand. As Logan continues to grow to meet forecast regional demand, the need for enhanced HOV services will become more critical. To meet this existing and projected demand, Massport is proposing to increase the parking capacity and consolidate four existing surface parking lots with a phased 5-level garage (grade plus four parking decks) to support up to 1,500 cars at this facility. The 1,500 spaces would increase the existing Framingham Logan Express parking capacity by 626 spaces.

Existing Conditions

Massport's Logan Express facilities provide secure parking and frequent bus service from outlying areas to all terminals at Boston Logan International Airport. There are currently four facilities in the Logan Express program located in Braintree, Framingham, Woburn, and Peabody. As reported in Massport's 2011 *Environmental Status and Planning Report (ESPR)* (EEA No. 3247), in 2011 the Logan Express system provided bus service to and from Logan Airport to greater than 1.1 million passengers and employees. Logan Express service provides the greatest share of HOV/Shared-Ride mode to Logan Airport, after the MBTA's Blue Line. As such, by reducing single-occupant vehicle use by passenger and employees going to Logan Airport, the Logan Express system is consistent with Massport's long-range air quality and HOV strategies and the Massachusetts Department of Transportation's GreenDOT Policy initiatives and Statewide Mode Share Goal.

The Framingham facility parcel is 4.63 acres[1], of which approximately 3.15 acres[2] are impervious. The remainder of the site is a mix of lawn, landscaping around the building, storm drainage facilities, forested upland and wetland. The site includes a one-story concrete bus terminal and adjacent 374-space surface parking lot, constructed by Massport in 1996. This parking facility is within the highly developed Massachusetts Turnpike (I-90)/Route 30/Route 9 corridor in the Framingham/ Natick area. Nearby land uses include the Shoppers World Plaza, REI store, the AMC Premium Cinema, Liberty Mutual office building, Home Goods/Target stores and numerous other retail, restaurant, and commercial buildings and associated surface parking lots.

Because the demand for long term parking at the Logan Express facility in Framingham exceeds the number of spaces at the main site more than 90% of the time, Massport leases a total of 500 spaces at three adjacent overflow parking lots located within walking distance of the existing bus terminal. Overflow lots are accessed at designated stops via Shoppers World Drive and West Drive. The most convenient and closest lot is 150 at-grade spaces leased south of Kohl's Department Store off West Drive. Approximately 300 spaces are leased from Shopper's World 10 months of the year at a location just north of Ring Road. Additionally, 50 spaces are leased at a snow storage location on the Shopper's World property, available except during snow storage periods (up to 4 months). Figure 2 illustrates the location of the main parking lots and adjacent overflow parking lots. Most passengers initially drive to the bus terminal on the primary site and then are redirected to one of the adjacent overflow lots when the primary lot is full.

Two unsignalized driveways provide access to the existing site. An entrance/non-bus exit is provided through a median break on Shoppers World Drive approximately 300 feet north of its signalized intersection with Burr Street. An exit-only driveway is located approximately 130 feet east of Shoppers World Drive on Burr Street.

The existing traffic pattern allows drop-off/pick-up automobile traffic to exit the site via either the driveway on the Shoppers World Drive or the Burr Street Extension driveway exit. Framingham Logan Express buses enter via the southbound left-turn lane on the Shoppers World Drive and exit via a right movement onto Burr Street Extension to travel to the Kohl's overflow lot. Non-Logan Express buses make a left-turn out onto Burr Street Extension toward Cochituate Road. A crosswalk at the intersection of Burr Street Extension and Shoppers World Drive provides a signalized crossing for patrons coming from the Shoppers World overflow lot. A sidewalk is provided along Burr Street Extension from the crossing into the Logan Express driveway. Pedestrians coming from the parking lot must cross the bus lanes in order to reach the existing terminal building.

Fay, Spofford & Thorndike (FST) prepared a *Traffic Impact and Access Study* (Attachment 6) for the proposed project. Automatic traffic recorder counts found that approximately 2,562 vehicle trips are made into or out of the Framingham Logan Express parking lot system during a typical Monday-Friday weekday. Of these vehicle trips, no more than 547 (21%) are related to long-term Logan Airport parking and employee trips. Of the daily vehicle trips, at least 2,000 (78%) are related to drop-off/pick-up vehicles, Massport employees, and bus trips. As noted above, the average daily demand for the Logan Express facility has increased by 12% between 2012 and 2013.

During the morning peak hours, approximately 60 vehicle trips are made (20 in and 40 out), while during the evening peak hour, approximately 90 vehicle trips are made (25 in and 65 out). None of the intersections observed for the Access Study indicate operations worse than Level-of-Service (LOS) D – on a range of A to F – during the AM peak hour. However, intersections along Cochituate Road (Route 30) operate at a LOS F during the PM peak hour due to heavy traffic volumes.

The existing bus terminal building is approximately 2,240 gross square feet (GSF). This space includes a waiting area, ticket office, vending area, restrooms and space for utilities. The existing building is currently too small for existing patron usage. Furthermore, there are no vestibules to protect the waiting area from the wind and the restroom facilities require updating.

Existing stormwater from the parking area and bus terminal is captured with curbing and catch basins. From there it is collected into to two water quality units before discharging to a detention basin at the southeast corner of the site.

Proposed Improvements

Due to consistently high and growing demand for the Logan Express bus service, Massport is seeking to consolidate and increase the amount of parking available at the Framingham location. The proposal is to construct a five-level, 1,500-space parking garage on the existing Massport-owned property. The existing terminal building would be demolished and replaced in its entirety within the new garage structure.

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[1] An additional 0.42 acres is reported in the ENF Summary Table to include the limit of disturbance within the Shoppers World Way right-of-way and Burr Street Extension easement, totaling 5.05 site acres.

[2] An additional 0.10 acres of impervious area is reported in the ENF Summary Table to include the sidewalk and driveway construction within the road right-of-way/easement, totaling 3.25 acres of impervious area.

The proposed “self-park” parking garage will greatly increase the customer service and operating efficiency of the system and enhance security for long-term parked vehicles by concentrating all activities at one site. Customers will also benefit from not having to arrive at one site, only to be redirected to a second or third adjacent site if the primary and secondary parking lots are full. The increase in the total number of available parking spaces to be provided for use by Logan Express customers, along with the improved amenities to be offered at the terminal facility, will serve to increase the number and percentage of people arriving at and departing from Logan Airport in high-occupancy vehicles. These increases, in turn, will result in improved traffic conditions on the region’s key roadways and improved air quality.

The new garage will feature four 60-foot by 48-foot bays, providing approximately1,465 parking spaces on five levels. The site will also provide approximately 15 short-term/drop-off spaces and 20 employee/taxi spaces as surface lots at the west end of the site. The proposed terminal building will be situated on the ground floor at the southwest corner of the new garage structure. Attachment 2 includes plans and elevations for the proposed garage.

Vehicle and pedestrian circulation at the site will be substantially improved. Most site circulation will occur at the ground level of the proposed garage. This will provide patrons with shelter from inclement weather throughout the year. Vehicular access to/from garage parking will be only from Burr Street. Employees, taxis, busses, and some short-term surface parking will have one-way access to the site, entering via Shoppers World Drive and exiting onto Burr Street. Accessible sidewalks will be provided on the north side of the Burr Street Extension and the east side of Shoppers World Drive. Pedestrians coming from the garage will have direct access into the terminal building by elevator or stairwell, greatly reducing the number of people walking through traffic around the terminal.

The FST *Traffic Impact and Access Study* determined that, on a daily basis, the proposed garage will add approximately 954 vehicle trips to the surrounding road network. On the other hand, it will eliminate approximately 900 longer distance vehicle trips per day to and from Logan Airport. During the morning peak hours, approximately 60 vehicle trips (30 in and 35 out) will be added to the surrounding road network, while during the evening peak hour, approximately 80 (40 in and 40 out) vehicle trips will be added. Nearly 50-70 longer distance trips to and from Logan Airport will be eliminated during morning and evening peak hours, respectively.

Drop-off/pick-up and bus movements will continue to dominate the traffic flow at the Framingham Logan Express site comprising approximately 60% of the future vehicle trips to and from the site, while the long term parking will entail approximately 40% of the vehicle trips to and from the site.

From a traffic operations perspective, the differences between the No-Build and Build Alternative’s effect on local traffic operations are relatively minor. Site bus operations should improve with the proposed reconfiguration of the facility, with reduced pedestrian/vehicle conflicts.

The proposed terminal building will be a maximum of 8,000 GSF. The increased footprint will provide updated ticketing, office, restroom, and waiting facilities for employees and patrons, as well as include a concession area. Massport will design and construct the facility in accordance with their *Sustainable Design Standards and Guidelines* (SDSG).

Environmental initiatives for the garage and terminal facility to be explored during the design phase include:

- LED lighting
- Water saving restroom fixtures
- Pervious pavement at taxi/employee parking area
- Use of warm-mix asphalt at other areas
- Clean vehicle priority parking locations
- Bike racks

Existing paved areas outside the proposed impervious footprint will be converted to lawn or other pervious surface (approximately 5,660 sf). Trees will be planted on-site where feasible. As noted above, pervious pavement will be installed outside of the garage footprint. Roof runoff from the new facility will be directed to the existing stormwater system on the site, while the runoff from the interior levels of the garage will be directed to the sewer system. Stormwater pollutants will be minimized as the roof parking will be only be used during peak operation, and snow-melting machines will be utilized in place of de-icing chemicals. As described below, Massport is proposing stormwater improvements that will enhance the quality of the stormwater discharge.

Project Alternatives

No-Build Alternative

Under a No Build Alternative, there would be no improvements to the project site. This alternative was eliminated from further consideration because it does not fully satisfy the project purpose of providing Logan Airport employees and passengers in the Framingham area a reliable and convenient method of traveling to Logan Airport. The No-build alternative would not enhance HOV access to Logan Airport; with constrained parking at Logan the demand is likely to be met by increased pick-up and drop-off, representing a doubling of travel miles for each trip.

Build Alternatives/Proposed Action

The Build Alternative will improve the reliability and convenience of HOV travel to Logan Airport by consolidating and expanding all of the Logan Express Framingham parking on the existing facility site. Project elements include a multi-level parking garage and new bus terminal building. As mentioned previously, an ENF was filed in 2001 for a 1,081 space parking garage on this site having three 60-foot by 36-foot bays and a footprint of 180 x 324-feet. The current and future needs of the Logan Express program necessitate a garage with more parking spaces and a modern terminal.

Currently proposed is a 1,500 space garage having four 60-foot by 48-foot bays. Several alternative circulation layouts were explored to minimize the footprint of the proposed facility. Build Alternative concept studies considered various footprint configurations, ramp directions, and bay spacing. Review of changes in the precast concrete industry indicated that 60-foot by 48-foot bays are currently the most efficient, therefore the previously designed 36-foot bays are no longer proposed. Due to the varying grades on the site, the grade level ramp slope was a critical design feature. Early concept layouts investigated a 360-foot by 288-foot garage with ramps in the north-south direction. The ramp slope exceeded the recommended 6% slope and parking on ramps would be prohibited, leading to a considerable inefficiency in the space count. Pedestrians would be required to cross the ramps and travel lanes to exit the garage. The design team investigated several options to optimize pedestrian safety and to increase the space count. Options included relocating the garage entrance driveway outside the footprint of the garage to the east and rotating the vehicle ramps to the east-west direction.

The concept study analysis concluded that position of the garage ramps in the east-west direction yields the best pedestrian safety as pedestrians walk along ramps and vehicle lanes. The east-west ramp also allows parking on the ramps, thus optimizing parking space count efficiency. The proposed action has a footprint of approximately 432 x 240-feet, supporting the amount of parking required for current and future operations of the Logan Express program.

Avoidance, Minimization, and Mitigation Measures

In developing a preferred concept for the updated parking plan, several facility layout plans were evaluated, including the 2001 concept. In addition to developing a more efficient and flexible plan, consideration was given to the avoidance and minimization of impact to natural resources, including wetlands. The first step of this process was to update the field wetland delineation (see Attachment 2). With that new wetland information in hand, the plan was adjusted to minimize wetland and buffer zone impacts to the maximum extent practicable.

The net result of that effort was to limit unavoidable impact to Bordering Vegetated Wetlands (BVW) to approximately 600 sf at the northeast corner of the proposed garage structure. The affected BVW on site borders an intermittent stream channel, which originates from a reinforced concrete pipe appearing to direct stormwater flows from adjacent parking lots. The garage has been sited as close to the western property boundary and Burr Street easement as possible in order to reduce wetland impacts while allowing enough room for foundation construction. No building structures, including those underground, may be located beyond these property line and easement setbacks.

Wetland Compensation: The BVW impacts will be compensated for on-site at a 2:1 ratio for a net increase in on-site wetland resources. Additional mitigation measures will include cleaning up any debris on site and cleaning out the accumulated sediment in the non-vegetated areas at each outfall.

The proposed Wetland Replacement Area (WRA), measuring 1,200 +/- square feet, is currently vegetated almost exclusively with American basswood in the canopy, sapling/shrub layer and groundcover, with scattered European buckthorn throughout. The project's wetland scientist (LEC Environmental Consultants) observed that the area contains 12+/- inches of fine sandy loam fill material underlain by a mucky fine sandy loam topsoil (A horizon) to a depth of 30+ inches. Redoximorphic concentrations were observed within 16 inches of the soil surface. These hydric indicators coupled with the accumulation of organic matter in the mucky A horizon, indicates that groundwater can be intercepted simply by removing the 12+/- inches of fill topsoil and exposing the native mucky topsoil. After exposing the hydric soils, the area will then be planted with native wetland species.

Soil erosion and sediment controls will be implemented prior to and in conjunction with proposed construction activities. These controls will include stormwater management measures designed to control and contain runoff during construction. Collectively, soil erosion and sediment control measures will be documented in a Stormwater Pollution Prevention Plan (SWPPP), as required by the U.S. Environmental Protection Agency (EPA) prior to construction.

Stormwater Management: The project is considered a redevelopment project as defined in 310 CMR 10.04 and therefore the stormwater management system will be designed to meet stormwater standards to the maximum extent practicable, while improving upon existing conditions. Conformance with the stormwater standards will be achieved in accordance with the Massachusetts Stormwater Handbook (Jan 2008).

The proposed storm drainage facilities are comprised of an open and closed drainage system with specific Low Impact Development (LID) measures and Best Management Practices (BMPs) for controlling the stormwater discharges. LID/BMP's measures include the use of pervious pavement at selected locations, infiltration trenches and proprietary treatment unit. Existing stormwater basin and drainage outfalls will be retained and utilized as part of the stormwater management system. Remaining components of the existing closed drainage system, including oil/grit separators will be abandoned or removed.

Roof runoff from the new facility will be directed to the new proprietary treatment unit prior to discharging to the existing stormwater basin, while runoff from the interior levels of the garage will be directed to the sewer system. Stormwater pollutants will be minimized as the roof parking will be only be used during peak operation, and snow-melting machines will be utilized in place of de-icing chemicals. Existing paved areas outside the proposed impervious footprint will be converted to lawn or other pervious surface. Proposed site improvements will result in an overall decrease of pavement and impervious area within the project limits. As noted above, pervious pavement will be installed outside of the garage footprint within the valet parking and employee parking areas.

Building Shading Analysis: The REI store to the north of the project site has recently installed solar carport and additional arrays on the roof of their building to provide about 210 kilowatts of power to their site. Fay, Spofford & Thorndike prepared a Solar Study to evaluate the impact of the shadows cast by the proposed parking garage on the REI solar panels. The study determined that shadows from the currently planned 5-level garage would have no impact on the existing REI solar panels. The potential vertical expansion of the garage in the future would slightly obstruct sun exposure of some of the REI building's rooftop panels in the morning during the low winter sun. Massport will continue to coordinate with REI as the project progresses.

Project Phasing

Massport anticipates construction of a 4-level, 1,100-space garage in 2014/2015. If funding permits, a 5-level, 1,500-space garage will be constructed at this time. The garage foundations will be designed to allow for future vertical expansion of up to two additional levels so that the proposed

Framingham Logan Express garage will have the ability to meet demand if program ridership continues to grow. Massport has no immediate plans for this future expansion.

During construction of the new garage, Framingham Logan Express operations will be temporarily relocated to Prime Parkway in Natick; to an unused Mathworks property (formerly Boston Scientific) approximately 1.5 miles from the existing site, as seen on Figure 2. This site will include approximately 500 parking spaces on an existing surface lot. Temporary bus terminal facilities will be provided. The currently leased Kohl's/Shopper's World overflow lots will also be available for Logan Express parking while the garage is being constructed.

It is anticipated that garage construction will last for approximately one year. According to the FST *Traffic Impact and Access Study,* it is anticipated that construction period traffic related to temporarily relocating the facility to the Mathworks property will result in no changes to existing peak hour levels of service albeit with slightly increased seconds of delay. Traffic mitigation (i.e. a clarified striping pattern and/or additional signage) along Prime Parkway is being evaluated in this area to simplify the driving experience and minimize potential traffic conflicts on the Mathworks site.

Permitting Status

The following municipal, state and federal environmental permits and reviews are anticipated as part of this project:

- **Notice of Intent (NOI) for Project Construction** has been filed with the Framingham Conservation Commission due to work in bordering vegetated wetlands (BVW) and wetland buffer. An Order of Conditions has not yet been issued.

  An Abbreviated Notice of Resource Area Delineation (ANRAD) was filed with the Conservation Commission on June 15, 2001. An ORAD was issued on August 16, 2001 confirming the resource area boundaries within the project area. Wetlands were reflagged in August 2013 to illustrate changes at the site. An informal site visit was held with the Framingham Conservation Commission on September 5, 2013 to review the flagging and discuss the anticipated NOI filing.

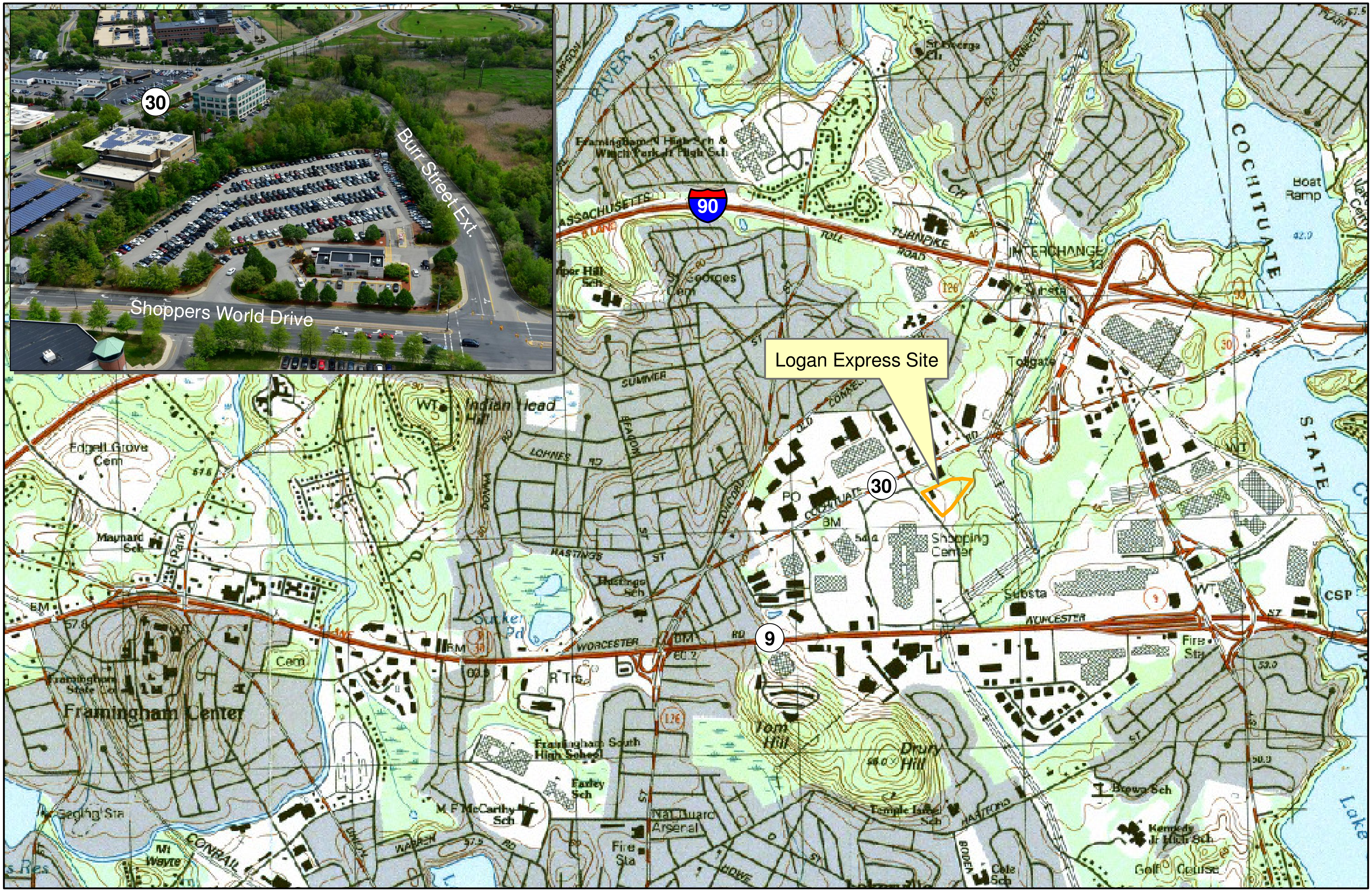
- **US Army Corps of Engineers (ACOE) Category 1 Section 404 General Permit (PGP)** notification form will be submitted to ACOE by the contractor prior to project construction, under Section 404 of the Clean Water Act for projects with under 5,000 sf cumulative impacts to Waters of the United States.

- An application for a **State Building Permit** and **State Plumbing Permit** will be filed by the project contractor during the construction phase.

\\fstserver6a\elmech\BG-068\Permits\ENF\Revised ENF_2014-01-09\L1319 Revised Project Description 2014-01-09.docx

ATTACHMENT 2
Project Locus Maps

Figure 1: Project Location
Figure 2: Project Site and Overflow Parking Lots
Figure 3: Environmental Resources
Figure 4: FEMA Flood Insurance Rate Map



Feet
0 600 1,200 2,400

N

Figure 1 - Project Location

Logan Express - Framingham

Map Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs, (data current to October 2013).

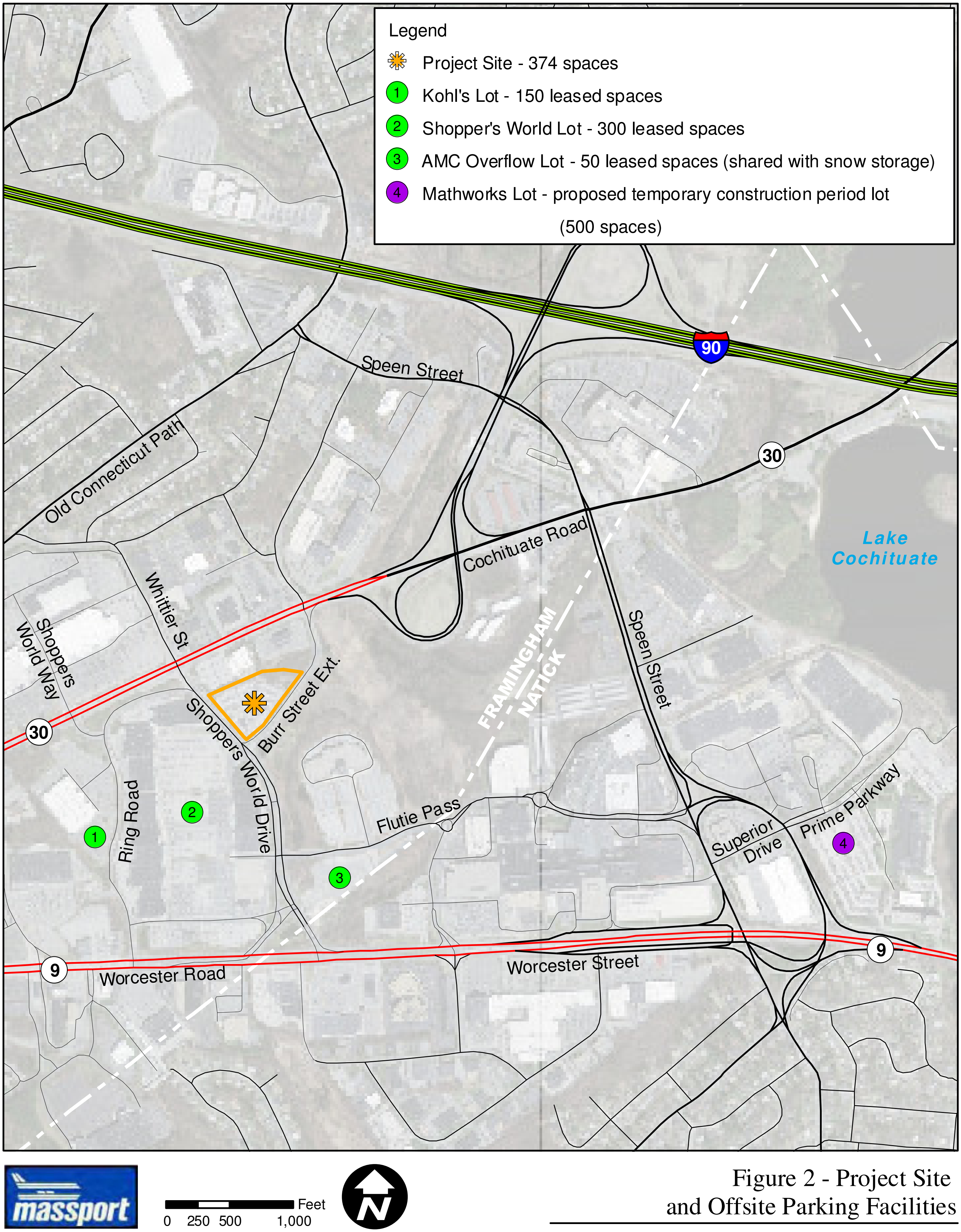
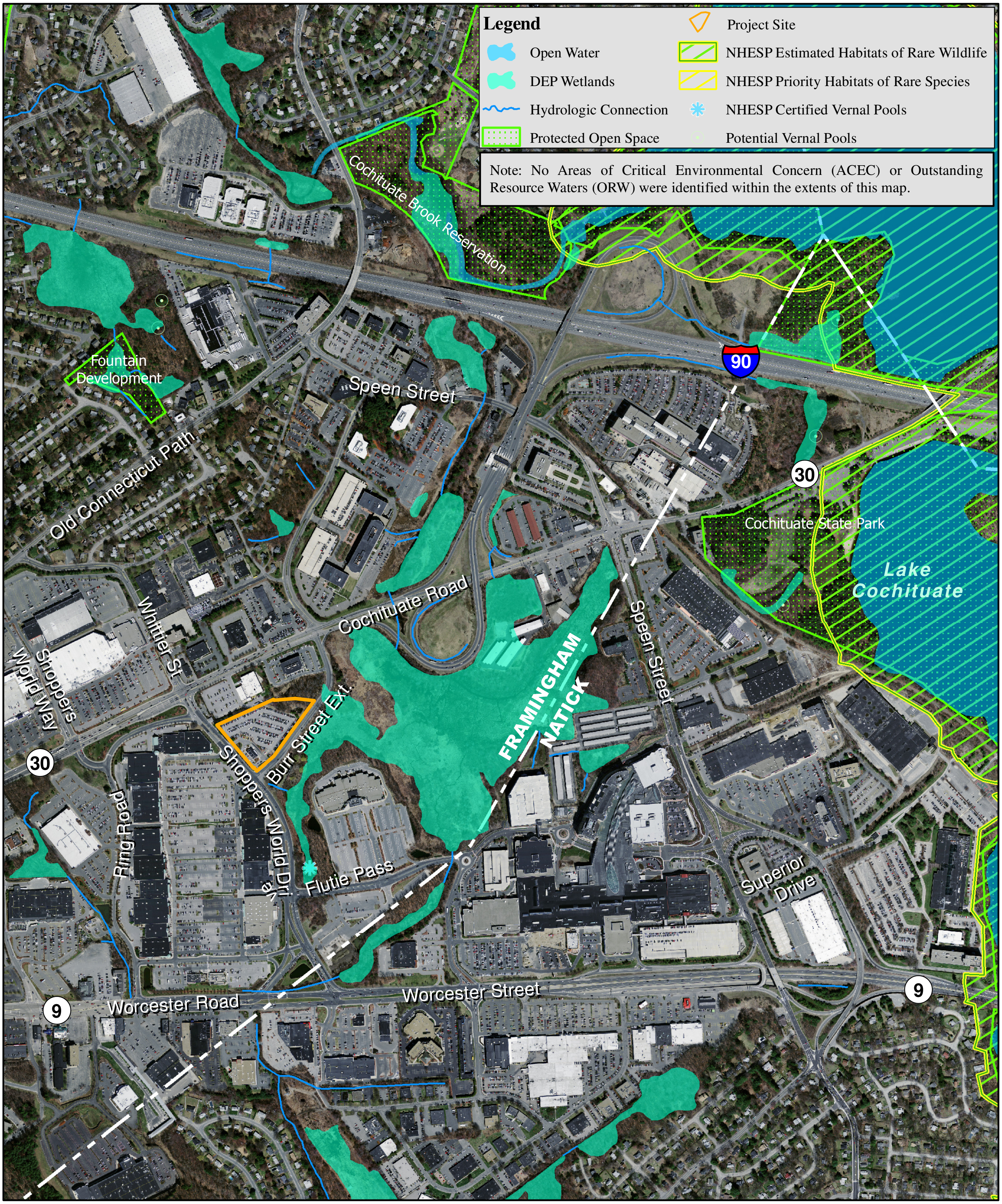


Figure 2 - Project Site and Offsite Parking Facilities

Logan Express - Framingham

Map Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs, (data current to October 2013). 2008 Orthophotography.



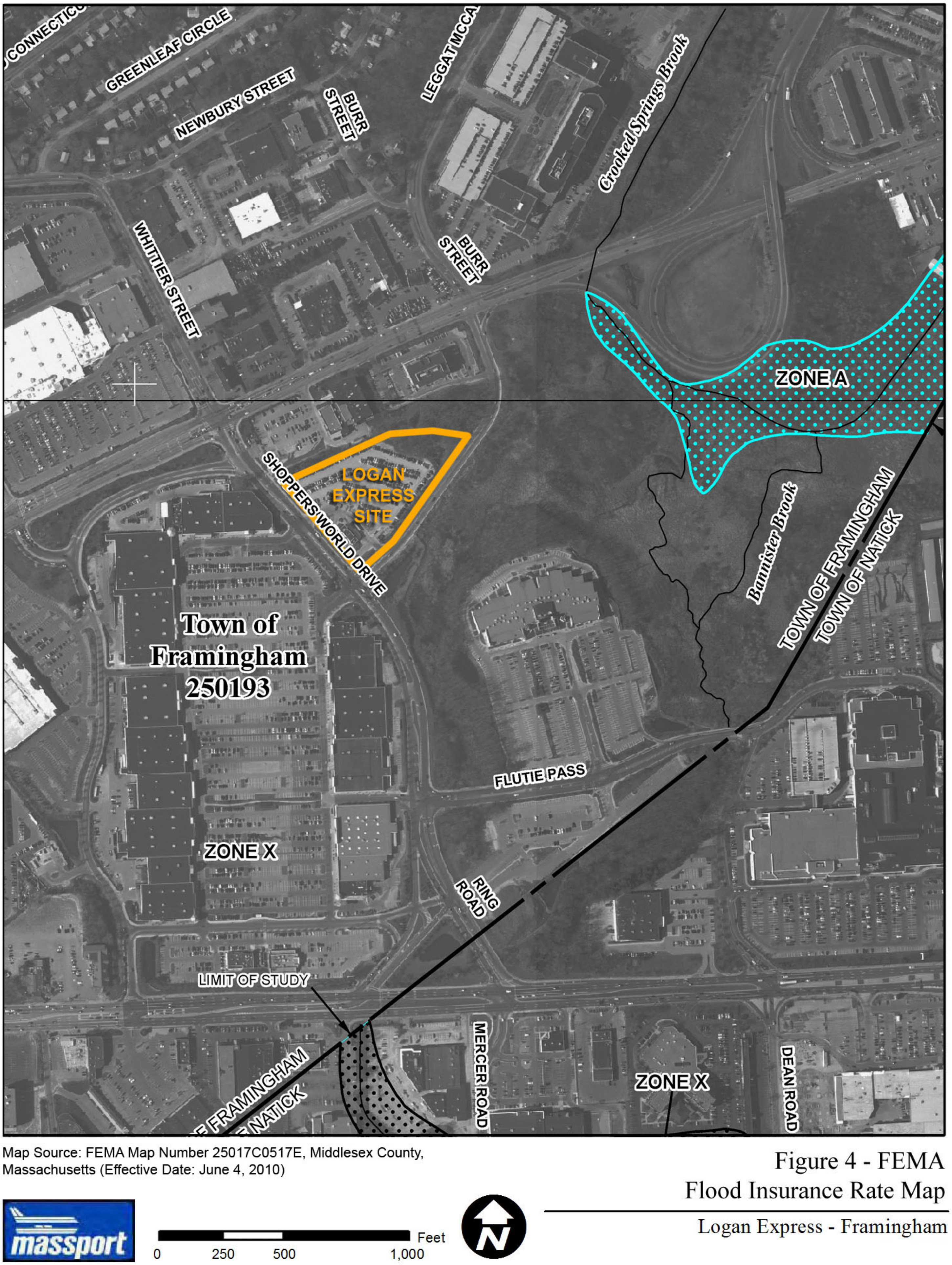
Note: No Areas of Critical Environmental Concern (ACEC) or Outstanding Resource Waters (ORW) were identified within the extents of this map.

massport

Figure 3 - Environmental Resources

Logan Express - Framingham

Map Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs, (data current to October 2013). 2008 Orthophotography.



Map Source: FEMA Map Number 25017C0517E, Middlesex County, Massachusetts (Effective Date: June 4, 2010)

Figure 4 - FEMA Flood Insurance Rate Map

Logan Express - Framingham

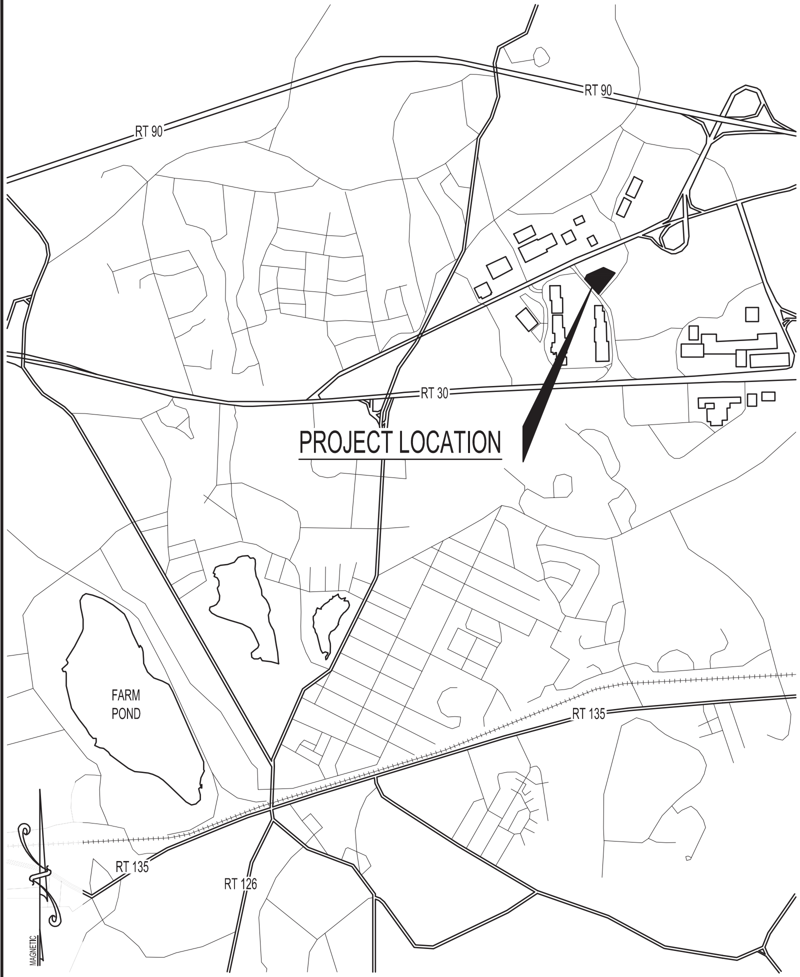
ATTACHMENT 3
Project Plans

Title Sheet
Legend & General Notes
Existing Conditions
Site Plan
Grading and Drainage
Site Details
Wetland Replacement Site Plan
Wetland Replacement Cross Sections
Wetland Replacement Planting Plan
Garage Elevations

MASSACHUSETTS PORT AUTHORITY

★ EAST BOSTON, MASSACHUSETTS ★

LOGAN EXPRESS GARAGE
MASSPORT PROPERTY
FRAMINGHAM, MASSACHUSETTS
ENF PLANS
JANUARY 9, 2014



MASSACHUSETTS PORT AUTHORITY
APPROVAL

CAPITAL PROGRAMS DEPARTMENT
ONE HARBORSIDE DRIVE
EAST BOSTON, MASSACHUSETTS

FAY, SPOFFORD & THORNDIKE, LLC
5 BURLINGTON WOODS
BURLINGTON, MASSACHUSETTS

DIRECTOR OF CAPITAL PROGRAMS
AND ENVIRONMENTAL AFFAIRS

DATE

LIST OF DRAWINGS:

SHT 1 OF 9	TITLE SHEET
SHT 2 OF 9	LEGEND & GENERAL NOTES
SHT 3 OF 9	EXISTING CONDITIONS
SHT 4 OF 9	SITE PLAN
SHT 5 OF 9	GRADING AND DRAINAGE
SHT 6 OF 9	SITE DETAILS
SHT 7 OF 9	WETLAND REPLACEMENT SITE PLAN
SHT 8 OF 9	WETLAND REPLACEMENT CROSS SECTIONS
SHT 9 OF 9	WETLAND REPLACEMENT PLANTING PLAN

GENERAL LEGEND

▤	CB CATCH BASIN
Ⓓ	DMH DRAIN MANHOLE
Ⓢ	SEWER MANHOLE
Ⓒ	TEL./COMM. MANHOLE
Ⓔ	ELECTRIC MANHOLE
⊠	HANDHOLE
☼	LIGHT POLE
⚲	WATERGATE
⧓	POST INDICATOR VALVE
○	WATER SHUT OFF
⊕	FIRE HYDRANT
⧓	GAS GATE
(TR)	TRAFFIC SIGNAL
▬	IRRIGATION HANDHOLE
◉	IRRIGATION VALVE
☐	UNKNOWN HH CASTING
Ⓦ	OBSERVATION WELL
⊕	BORING
✳	CONIFEROUS TREE
◯	DECIDUOUS TREE
☼	LIGHT POLE
⋮	TRAFFIC SIGNAL
———	BORDERING VEGETATED WETLANDS
— — — —	100' WETLANDS BUFFER
——— E ———	ELECTRIC LINE
	GAS LINE
——— W ———	WATER LINE
	FORCE MAIN(SEWER)
——— T ———	TELEPHONE LINE
———	CHAIN LINK FENCE
———	GUARD RAIL
—□——□—	PROPOSED EROSION CONTROL MEASURE

ABBREVIATIONS

EXIST	EXISTING
PROP	PROPOSED
PERM	PERMANENT
TOS	TOP OF SLOPE
BOS	BOTTOM OF SLOPE
ADJBO	ADJUST BY OTHER
R&RBO	REMOVE AND RESET BY OTHERS
REMODBO	REMODEL BY OTHERS
WQS	WATER QUALITY SWALE
S	SLOPE

GENERAL NOTES

1. THIS PLAN SET IS FOR PERMITTING USE ONLY AND NOT FOR CONSTRUCTION
2. SPECIFIC EROSION CONTROL MEASURES TO BE DETERMINED AT THE TIME OF CONSTRUCTION DEPENDENT ON SITE CONDITIONS.

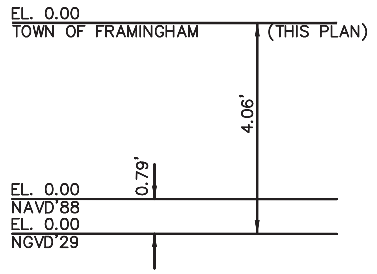
PLAN REFERENCES:

1. SITE PLAN FOR MASSPORT LOGAN EXPRESS PREPARED BY BEALS AND THOMAS INC.
200 FRIBERG PARKWAY
WESTBOROUGH, MA. 01581
DATED MARCH 14,1995 REVISED APRIL 12,1995
SHEETS 1-8

2. FRAMINGHAM PARK AND RIDE EXISTING CONDITIONS PLAN PREPARED BY BRYANT ASSOCIATES INC.
160 NORTH WASHINGTON ST.
BOSTON, MA. 02114
DATED 12-6-00

3. ANR SUBDIVISION PLAN ON COCHITUATE ROAD IN FRAMINGHAM, MASS.(MIDDLESEX COUNTY) PREPARED BY MACCARTHY & SULLIVAN ENGINEERING INC.
41 BEACON STREET FRAMINGHAM, MASS.
DATED JUNE 19, 2000. RECORDED IN THE MIDDLESEX REGISTRY OF DEEDS AS PLAN NO. 279 OF 2001.
BK. 32584 PAGE 190

4. TOPOGRAPHIC PLAN OF LAND, FRAMINGHAM EXPRESS LOT AND BURR STREET EXTENSION. PREPARED BY MASSPORT SURVEY UNIT
1 HARBORSIDE DRIVE
LOGAN AIRPORT, EAST BOSTON, MA. 02128



VERTICAL DATUM SKETCH

REV. NO	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY

MASSACHUSETTS PORT AUTHORITY
EAST BOSTON, MASSACHUSETTS

LOGAN EXPRESS PARKING GARAGE
FRAMINGHAM, MASSACHUSETTS

LEGEND & GENERAL NOTES
ENF PLANS - NOT FOR CONSTRUCTION

ENGINEERS FST Since 1914
FAY, SPOPFFORD & THORNDIKE, LLC
5 BURLINGTON WOODS, BURLINGTON, MASSACHUSETTS

DES. BY: SJR
DWN. BY: HBK
CHKD. BY: VMG
LOC. CODE:
SCALE:
APPROVED: XXX
DATE: 12/13/2013
DWG. NO.: 2
SHEET 2 OF 9
MPA PROJECT NO. L1319C01

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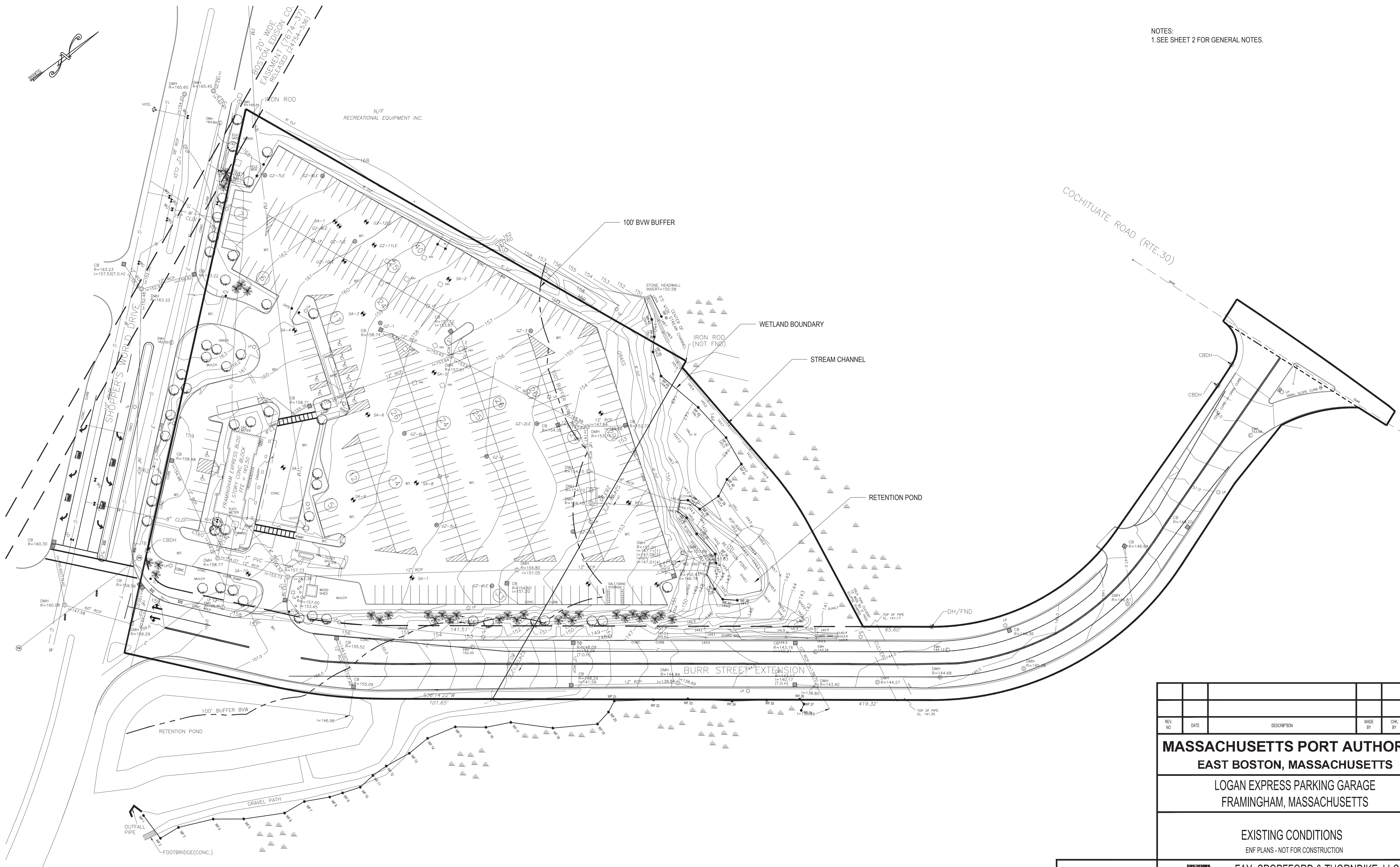
DRAWING: U:\BG-068\CADD\12 PERMITTING\L1319PM1-LEGEND AND GEN NOTES.DWG [LAYOUT SHEET-24X36]

NOTES:
1.SEE SHEET 2 FOR GENERAL NOTES.



REV. NO	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY

MASSACHUSETTS PORT AUTHORITY
EAST BOSTON, MASSACHUSETTS

LOGAN EXPRESS PARKING GARAGE
FRAMINGHAM, MASSACHUSETTS

EXISTING CONDITIONS

ENF PLANS - NOT FOR CONSTRUCTION

ENGINEERS FST Since 1914
FAY, SPOPFFORD & THORNDIKE, LLC
5 BURLINGTON WOODS, BURLINGTON, MASSACHUSETTS

DES. BY: SJR DWN. BY: HBK	CHKD. BY: VMG		LOC. CODE:
SCALE: 1"=40'	APPROVED: XXX	DATE: 12/13/2013	DWG. NO.:
SHEET 3 OF 9	MPA PROJECT NO. L1319C01		3

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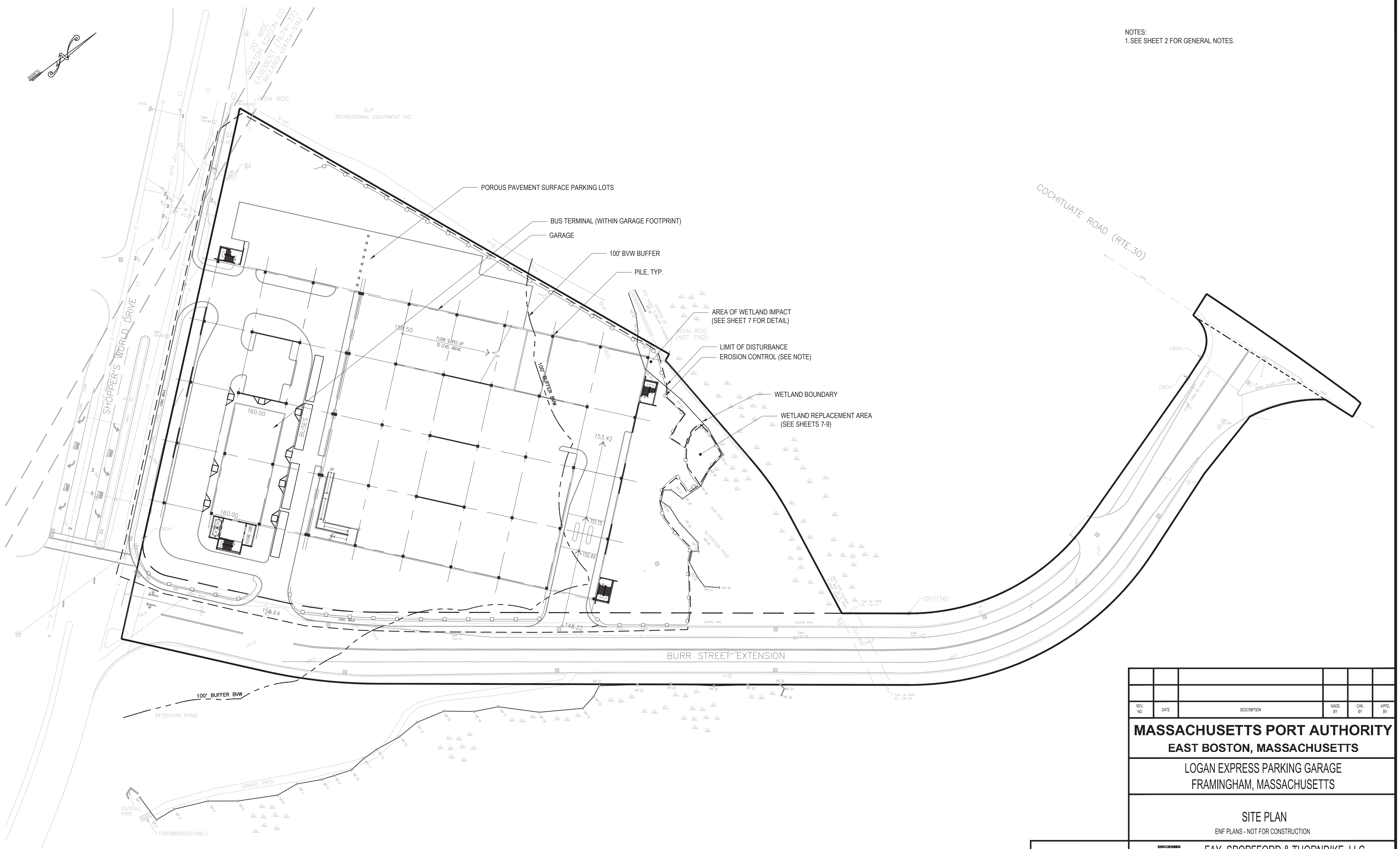
NOTES:
1. SEE SHEET 2 FOR GENERAL NOTES.



REV. NO	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY

MASSACHUSETTS PORT AUTHORITY
EAST BOSTON, MASSACHUSETTS

LOGAN EXPRESS PARKING GARAGE
FRAMINGHAM, MASSACHUSETTS

SITE PLAN
ENF PLANS - NOT FOR CONSTRUCTION

ENGINEERS FST Since 1914
FAY, SPOPFFORD & THORNDIKE, LLC
5 BURLINGTON WOODS, BURLINGTON, MASSACHUSETTS

DES. BY: SJR
DWN. BY: HBK
CHKD. BY: VMG
LOC. CODE:
SCALE: 1'=40'
APPROVED: XXX
DATE: 12/13/2013
DWG. NO.: 4
SHEET 4 OF 9
MPA PROJECT NO. L1319C01

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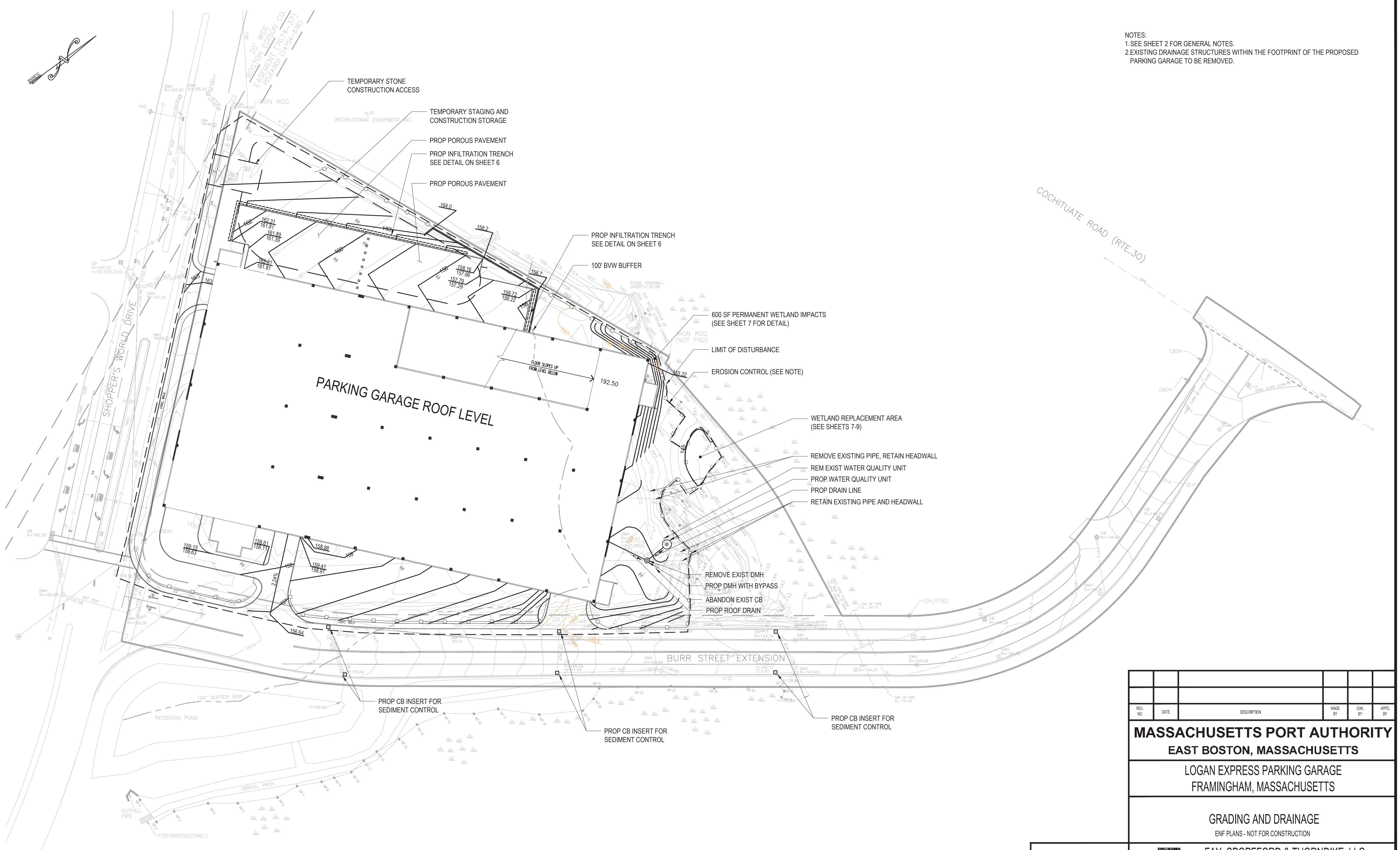
NOTES:
1.SEE SHEET 2 FOR GENERAL NOTES.
2.EXISTING DRAINAGE STRUCTURES WITHIN THE FOOTPRINT OF THE PROPOSED PARKING GARAGE TO BE REMOVED.


TEMPORARY STONE CONSTRUCTION ACCESS
TEMPORARY STAGING AND CONSTRUCTION STORAGE
PROP POROUS PAVEMENT
PROP INFILTRATION TRENCH SEE DETAIL ON SHEET 6
PROP POROUS PAVEMENT
PROP INFILTRATION TRENCH SEE DETAIL ON SHEET 6
100' BVW BUFFER
600 SF PERMANENT WETLAND IMPACTS (SEE SHEET 7 FOR DETAIL)
LIMIT OF DISTURBANCE
EROSION CONTROL (SEE NOTE)
WETLAND REPLACEMENT AREA (SEE SHEETS 7-9)
REMOVE EXISTING PIPE, RETAIN HEADWALL
REM EXIST WATER QUALITY UNIT
PROP WATER QUALITY UNIT
PROP DRAIN LINE
RETAIN EXISTING PIPE AND HEADWALL
REMOVE EXIST DMH
PROP DMH WITH BYPASS
ABANDON EXIST CB
PROP ROOF DRAIN
PROP CB INSERT FOR SEDIMENT CONTROL
PROP CB INSERT FOR SEDIMENT CONTROL
PROP CB INSERT FOR SEDIMENT CONTROL
PARKING GARAGE ROOF LEVEL
FLOOR SLOPES UP FROM LEVEL BELOW
192.50
SHOPPER'S WORLD DRIVE
COCHITUATE ROAD (RTE.30)
BURR STREET EXTENSION
20' WIDE BOSTON EDISON CO. EASEMENT
IRON ROD
N/F RECREATIONAL EQUIPMENT, INC.
STONE HEADWALL
IRON ROD (NOT FND)
100' BUFFER BVW
RETENTION POND
GRAVEL PATH
OUTFALL PIPE
FOOTBRIDGE(CONC.)
40' 0 40' 80'
1"=40'

REV. NO	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY

MASSACHUSETTS PORT AUTHORITY
EAST BOSTON, MASSACHUSETTS

LOGAN EXPRESS PARKING GARAGE
FRAMINGHAM, MASSACHUSETTS

GRADING AND DRAINAGE
ENF PLANS - NOT FOR CONSTRUCTION

ENGINEERS FST Since 1914
FAY, SPOPFFORD & THORNDIKE, LLC
5 BURLINGTON WOODS, BURLINGTON, MASSACHUSETTS

DES. BY: SJR
DWN. BY: HBK
CHKD. BY: VMG
LOC. CODE:
SCALE: 1'=40'
APPROVED: XXX
DATE: 12/13/2013
DWG. NO.: 5
SHEET 5 OF 9
MPA PROJECT NO. L1319C01

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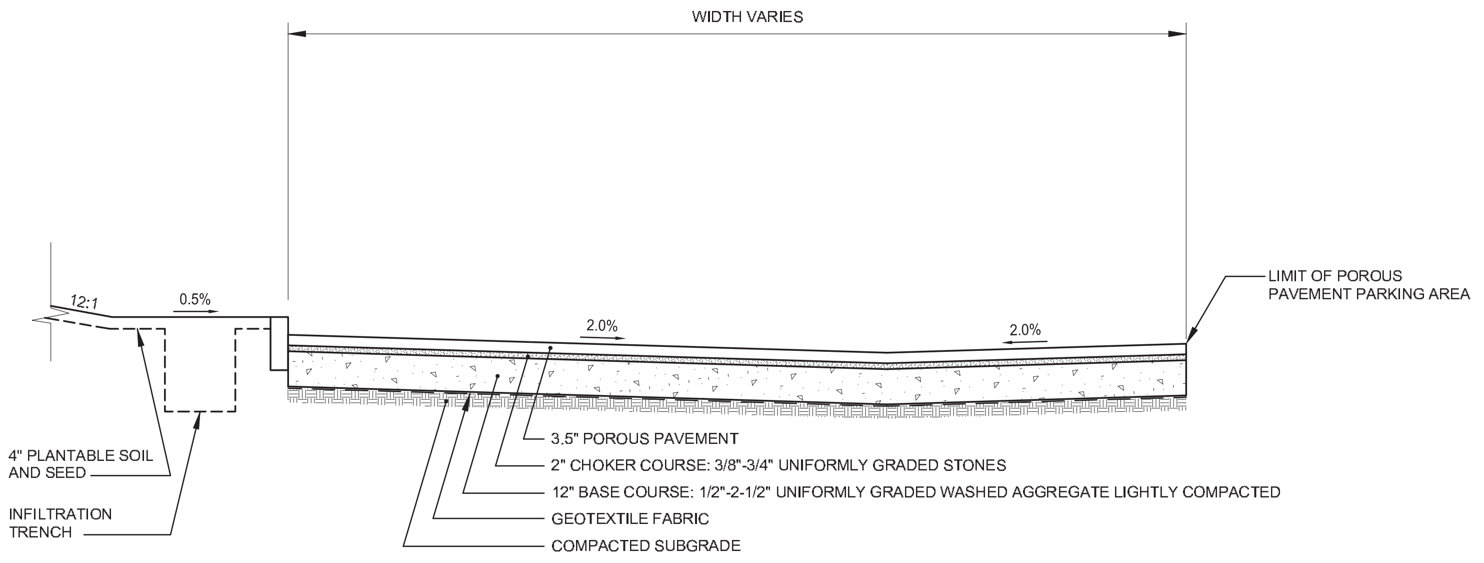
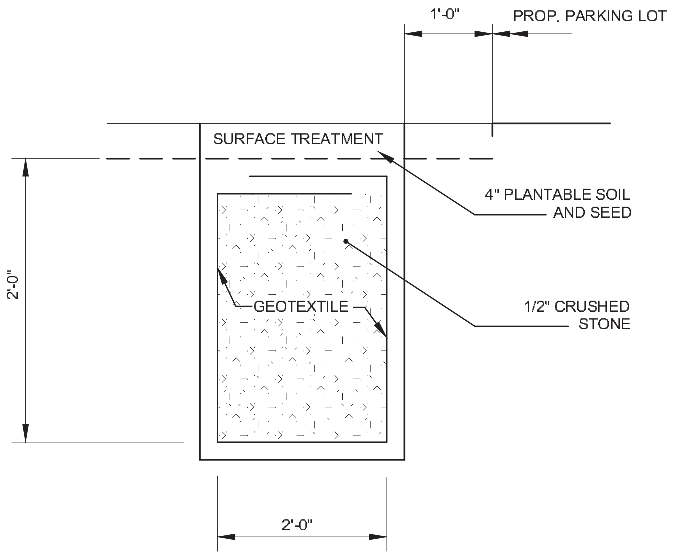
NOTES:
1. SEE SHEET 2 FOR GENERAL NOTES.


WIDTH VARIES
12:1
0.5%
2.0%
2.0%
LIMIT OF POROUS PAVEMENT PARKING AREA
4" PLANTABLE SOIL AND SEED
INFILTRATION TRENCH
3.5" POROUS PAVEMENT
2" CHOKER COURSE: 3/8"-3/4" UNIFORMLY GRADED STONES
12" BASE COURSE: 1/2"-2-1/2" UNIFORMLY GRADED WASHED AGGREGATE LIGHTLY COMPACTED
GEOTEXTILE FABRIC
COMPACTED SUBGRADE

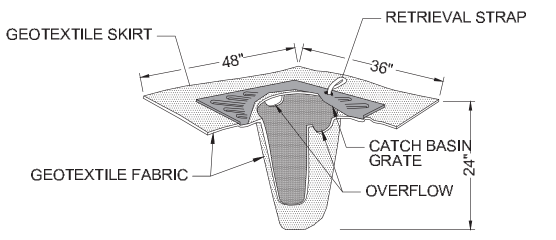
TYPICAL SECTION : POROUS PAVEMENT PARKING AREA

NOT TO SCALE



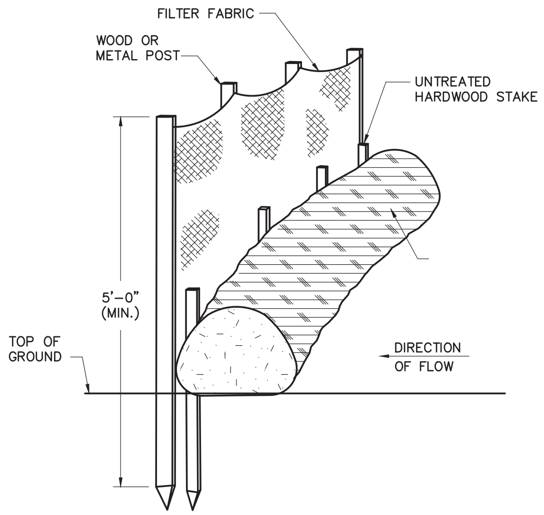
INFILTRATION TRENCH

NOT TO SCALE



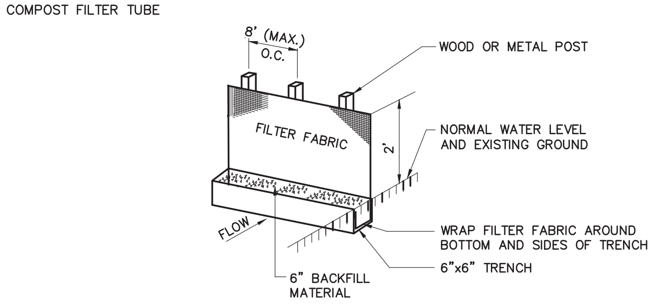
CATCH BASIN INSERT FOR SEDIMENT CONTROL

NOT TO SCALE



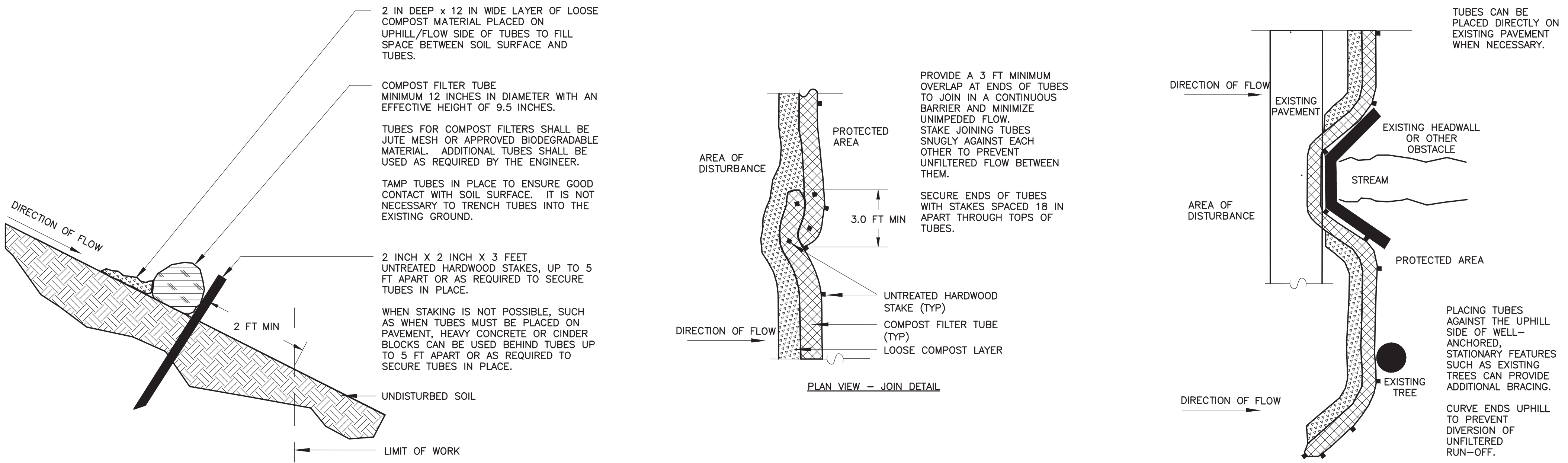
COMPOST FILTER TUBE AND SEDIMENTATION FENCE

NOT TO SCALE



SEDIMENTATION FENCE DETAIL

NOT TO SCALE



2 IN DEEP x 12 IN WIDE LAYER OF LOOSE COMPOST MATERIAL PLACED ON UPHILL/FLOW SIDE OF TUBES TO FILL SPACE BETWEEN SOIL SURFACE AND TUBES.

COMPOST FILTER TUBE MINIMUM 12 INCHES IN DIAMETER WITH AN EFFECTIVE HEIGHT OF 9.5 INCHES.

TUBES FOR COMPOST FILTERS SHALL BE JUTE MESH OR APPROVED BIODEGRADABLE MATERIAL. ADDITIONAL TUBES SHALL BE USED AS REQUIRED BY THE ENGINEER.

TAMP TUBES IN PLACE TO ENSURE GOOD CONTACT WITH SOIL SURFACE. IT IS NOT NECESSARY TO TRENCH TUBES INTO THE EXISTING GROUND.

2 INCH X 2 INCH X 3 FEET UNTREATED HARDWOOD STAKES, UP TO 5 FT APART OR AS REQUIRED TO SECURE TUBES IN PLACE.

WHEN STAKING IS NOT POSSIBLE, SUCH AS WHEN TUBES MUST BE PLACED ON PAVEMENT, HEAVY CONCRETE OR CINDER BLOCKS CAN BE USED BEHIND TUBES UP TO 5 FT APART OR AS REQUIRED TO SECURE TUBES IN PLACE.

SECTION VIEW

PROVIDE A 3 FT MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW. STAKE JOINING TUBES SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.

SECURE ENDS OF TUBES WITH STAKES SPACED 18 IN APART THROUGH TOPS OF TUBES.

PLAN VIEW – JOIN DETAIL

TUBES CAN BE PLACED DIRECTLY ON EXISTING PAVEMENT WHEN NECESSARY.

PLACING TUBES AGAINST THE UPHILL SIDE OF WELL–ANCHORED, STATIONARY FEATURES SUCH AS EXISTING TREES CAN PROVIDE ADDITIONAL BRACING.

CURVE ENDS UPHILL TO PREVENT DIVERSION OF UNFILTERED RUN–OFF.

PLAN VIEW

COMPOST FILTER TUBE DETAILS

NOT TO SCALE

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REV. NO	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY

MASSACHUSETTS PORT AUTHORITY
EAST BOSTON, MASSACHUSETTS

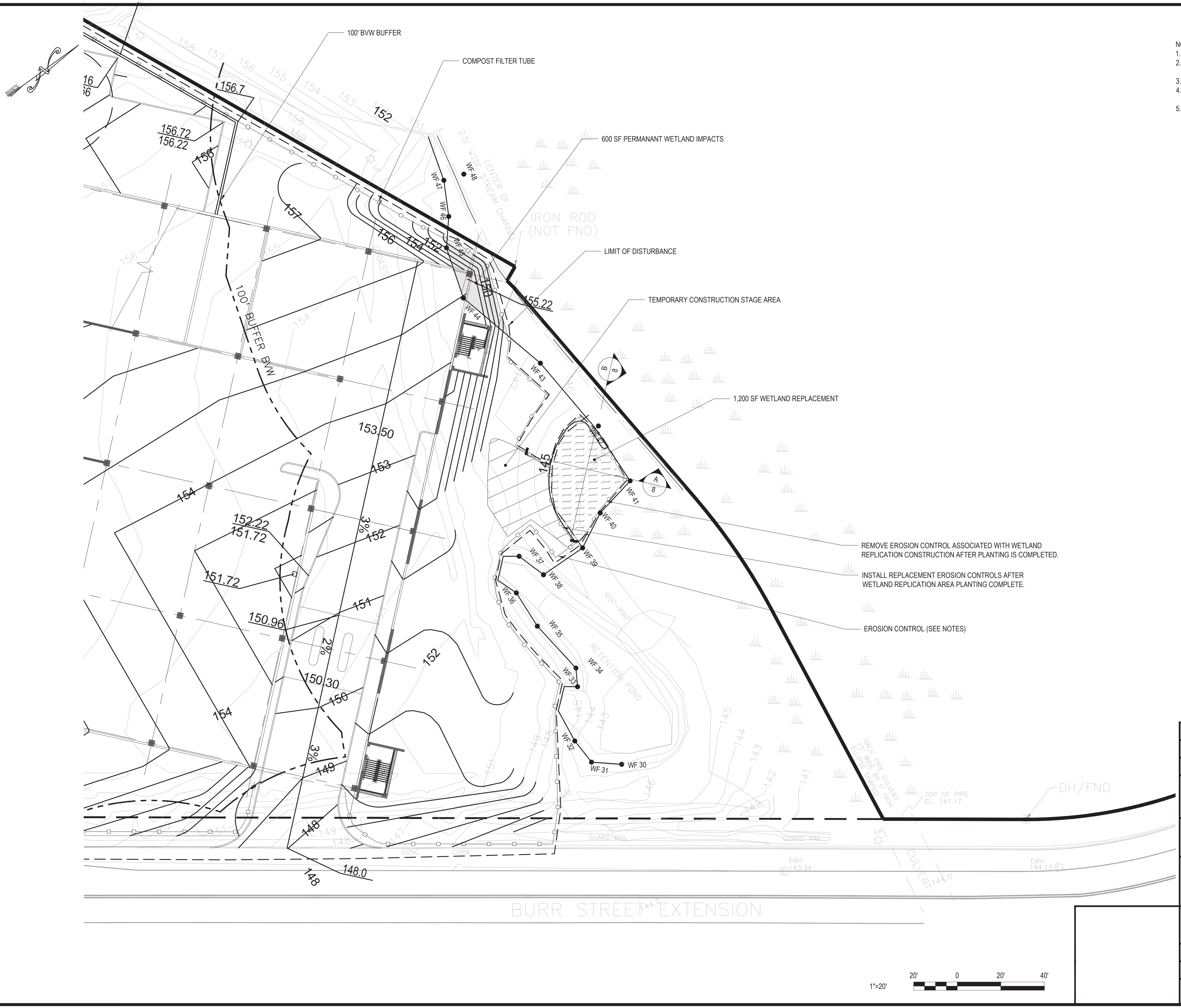
LOGAN EXPRESS PARKING GARAGE
FRAMINGHAM, MASSACHUSETTS

SITE DETAILS
ENF PLANS - NOT FOR CONSTRUCTION

ENGINEERS FST Since 1914
FAY, SPOPFFORD & THORNDIKE, LLC
5 BURLINGTON WOODS, BURLINGTON, MASSACHUSETTS

DES. BY: SJR
DWN. BY: HBK
CHKD. BY: VMG
LOC. CODE:
SCALE: 1'=40'
APPROVED: XXX
DATE: 12/13/2013
DWG. NO.: 6
SHEET 6 OF 9
MPA PROJECT NO. L1319C01

NOTES:
1. SEE SHEET 2 FOR GENERAL NOTES.
2. CLEAR AND REMOVE EXISTING VEGETATION WITHIN THE WETLAND REPLACEMENT AREA UNLESS NOTED OTHERWISE.
3. REMOVE EXISTING FILL TO A DEPTH OF 12" AS DIRECTED BY THE WETLAND SCIENTIST.
4. REMOVE EXCAVATED MATERIALS TO A LOCATION OUTSIDE THE REGULATED 100-FOOT BUFFER ZONE ASSOCIATED WITH THE REPLACEMENT AREA AND ADJACENT WETLANDS.
5. EROSION CONTROLS ASSOCIATED WITH WETLAND REPLACEMENT CONSTRUCTION TO BE REMOVED AFTER COMPLETION, AND REPLACED UPLAND FOR CONSTRUCTION OF GARAGE.


100' BVW BUFFER
COMPOST FILTER TUBE
600 SF PERMANANT WETLAND IMPACTS
LIMIT OF DISTURBANCE
TEMPORARY CONSTRUCTION STAGE AREA
1,200 SF WETLAND REPLACEMENT
REMOVE EROSION CONTROL ASSOCIATED WITH WETLAND REPLICATION CONSTRUCTION AFTER PLANTING IS COMPLETED.
INSTALL REPLACEMENT EROSION CONTROLS AFTER WETLAND REPLICATION AREA PLANTING COMPLETE.
EROSION CONTROL (SEE NOTES)
100' BUFFER BVW
25' WIDE STREAM CENTER OF STREAM CHANNEL
IRON ROD (NOT FND)
RIP-RAP
RETENTION POND
GALV. PIPE CULVERT 15" WIDE BY 5" HIGH ELLIPSE SHAPED
TOP OF PIPE EL. 141.17
DH/FND
GUARD RAIL
CONC. CURB
EMH 143.34
EMH 144.13
CULVERT
BURR STREET EXTENSION
WF 30
WF 31
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WF 47
WF 48
A 8
B 8
156.7
156.72
156.22
155.22
153.50
152.22
151.72
151.72
150.96
150.30
148.0
3%
2%
3%
1"=20'
20'
0
20'
40'

REV. NO	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY

MASSACHUSETTS PORT AUTHORITY
EAST BOSTON, MASSACHUSETTS

LOGAN EXPRESS PARKING GARAGE
FRAMINGHAM, MASSACHUSETTS

WETLAND REPLACEMENT SITE PLAN

ENF PLANS - NOT FOR CONSTRUCTION

ENGINEERS FST Since 1914
FAY, SPOPFFORD & THORNDIKE, LLC
5 BURLINGTON WOODS, BURLINGTON, MASSACHUSETTS

DES. BY: SJR DWN. BY: HBK	CHKD. BY: VMG		LOC. CODE:
SCALE: 1'=20"	APPROVED: XXX	DATE: 12/13/2013	DWG. NO.: 7
SHEET 7 OF 9	MPA PROJECT NO. L1319C01		

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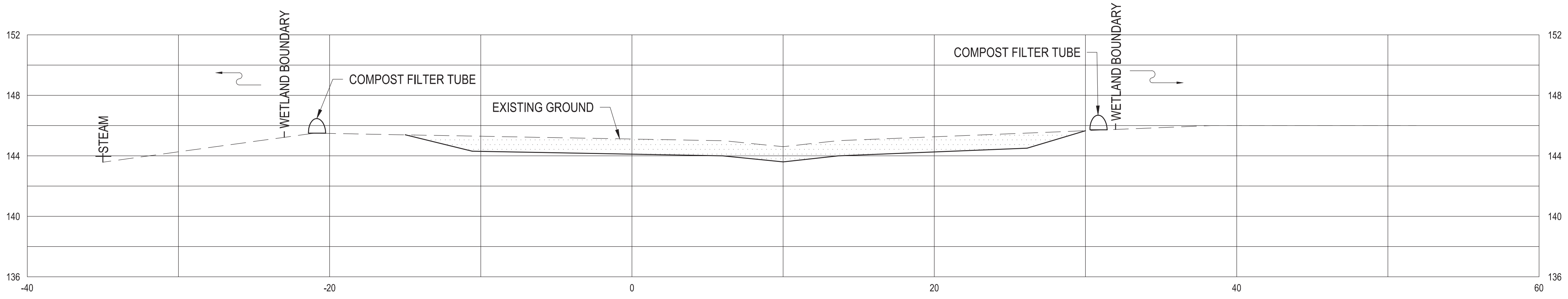
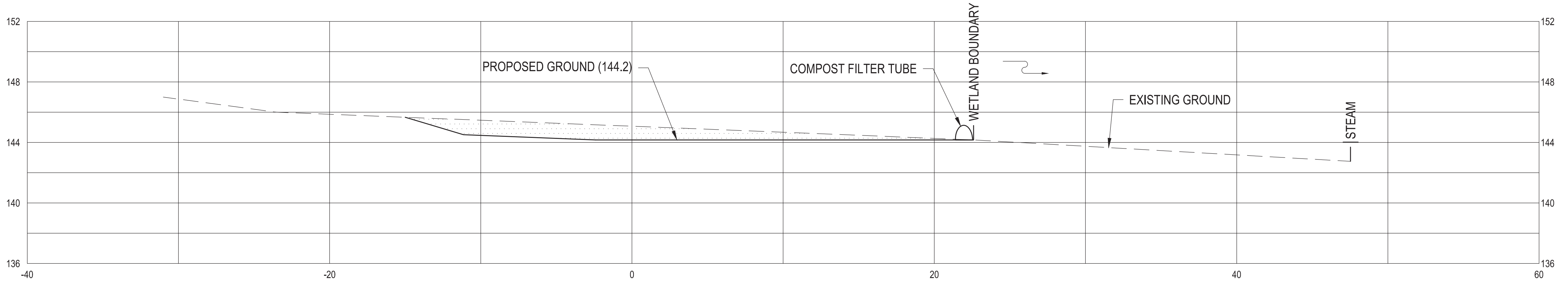
NOTES:
1.SEE SHEET 2 FOR GENERAL NOTES.
2.SEE SHEET 7 FOR WETLAND REPLICATION CONSTRUCTION NOTES.



SECTION BB



SECTION AA

REV. NO	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY

MASSACHUSETTS PORT AUTHORITY
EAST BOSTON, MASSACHUSETTS

LOGAN EXPRESS PARKING GARAGE
FRAMINGHAM, MASSACHUSETTS

WETLAND REPLACEMENT CROSS SECTIONS
ENF PLANS - NOT FOR CONSTRUCTION

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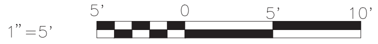
5 BURLINGTON WOODS, BURLINGTON, MASSACHUSETTS

DES. BY: SJR DWN. BY: HBK	CHKD. BY: VMG		LOC. CODE:
SCALE: 1'=5"	APPROVED: XXX	DATE: 12/13/2013	DWG. NO.:
SHEET 8 OF 9	**MPA PROJECT NO. L1319C01**		8



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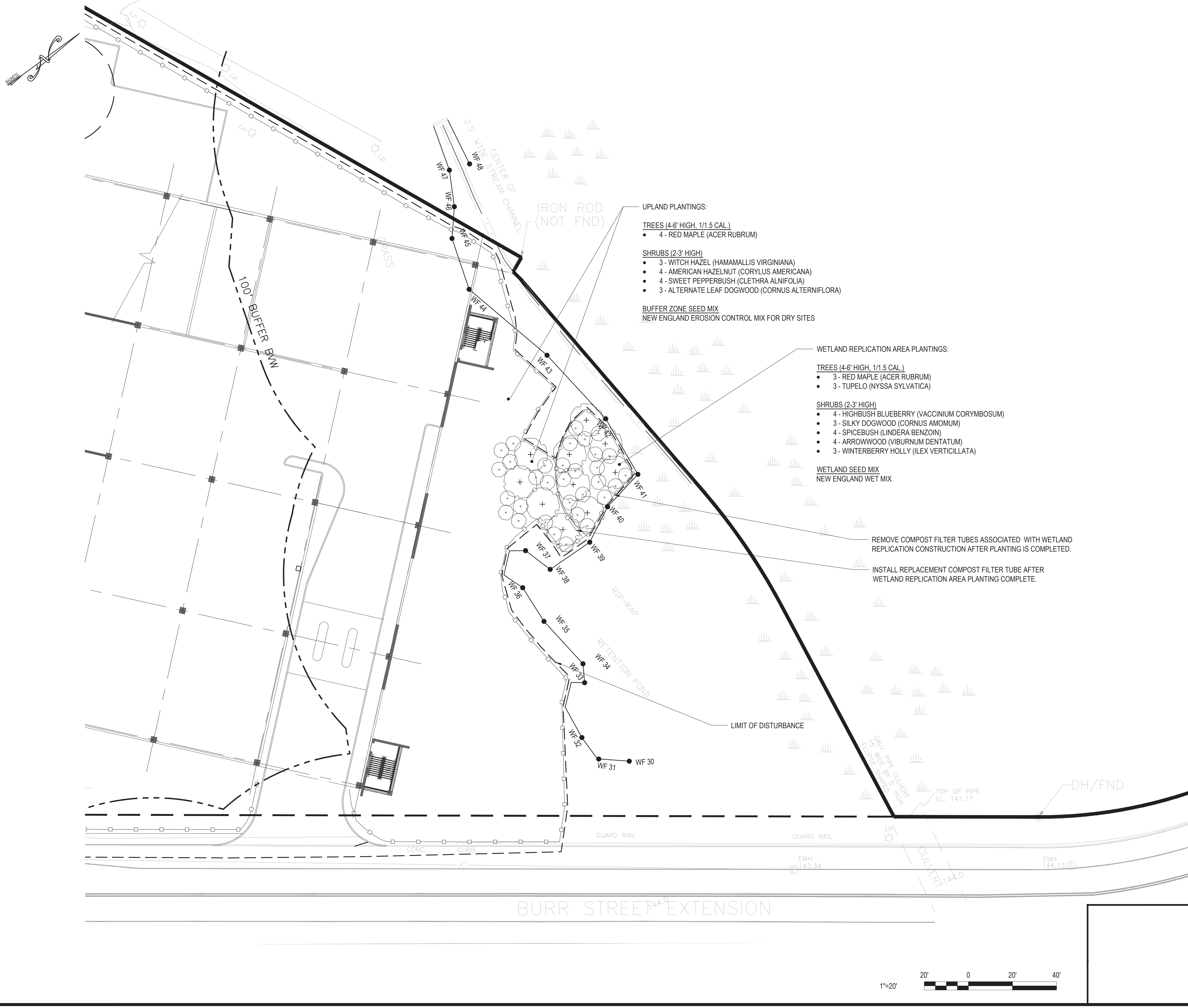
NOTES:
1.SEE SHEET 2 FOR GENERAL NOTES.
2.SEE SHEET 7 FOR WETLAND REPLICATION CONSTRUCTION NOTES.



UPLAND PLANTINGS:

TREES (4-6' HIGH, 1/1.5 CAL.)
- 4 - RED MAPLE (ACER RUBRUM)

SHRUBS (2-3' HIGH)
- 3 - WITCH HAZEL (HAMAMALLIS VIRGINIANA)
- 4 - AMERICAN HAZELNUT (CORYLUS AMERICANA)
- 4 - SWEET PEPPERBUSH (CLETHRA ALNIFOLIA)
- 3 - ALTERNATE LEAF DOGWOOD (CORNUS ALTERNIFLORA)

BUFFER ZONE SEED MIX
NEW ENGLAND EROSION CONTROL MIX FOR DRY SITES

WETLAND REPLICATION AREA PLANTINGS:

TREES (4-6' HIGH, 1/1.5 CAL.)
- 3 - RED MAPLE (ACER RUBRUM)
- 3 - TUPELO (NYSSA SYLVATICA)

SHRUBS (2-3' HIGH)
- 4 - HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM)
- 3 - SILKY DOGWOOD (CORNUS AMOMUM)
- 4 - SPICEBUSH (LINDERA BENZOIN)
- 4 - ARROWWOOD (VIBURNUM DENTATUM)
- 3 - WINTERBERRY HOLLY (ILEX VERTICILLATA)

WETLAND SEED MIX
NEW ENGLAND WET MIX

REMOVE COMPOST FILTER TUBES ASSOCIATED WITH WETLAND REPLICATION CONSTRUCTION AFTER PLANTING IS COMPLETED.

INSTALL REPLACEMENT COMPOST FILTER TUBE AFTER WETLAND REPLICATION AREA PLANTING COMPLETE.

LIMIT OF DISTURBANCE

REV. NO	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY

MASSACHUSETTS PORT AUTHORITY
EAST BOSTON, MASSACHUSETTS

LOGAN EXPRESS PARKING GARAGE
FRAMINGHAM, MASSACHUSETTS

WETLAND REPLACEMENT PLANTING PLAN
ENF PLANS - NOT FOR CONSTRUCTION

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5 BURLINGTON WOODS, BURLINGTON, MASSACHUSETTS

DES. BY: SJR DWN. BY: HBK	CHKD. BY: VMG	LOC. CODE:
SCALE: 1'=20"	APPROVED: XXX / DATE: 12/13/2013	DWG. NO.:
SHEET 9 OF 9	MPA PROJECT NO. L1319C01	9

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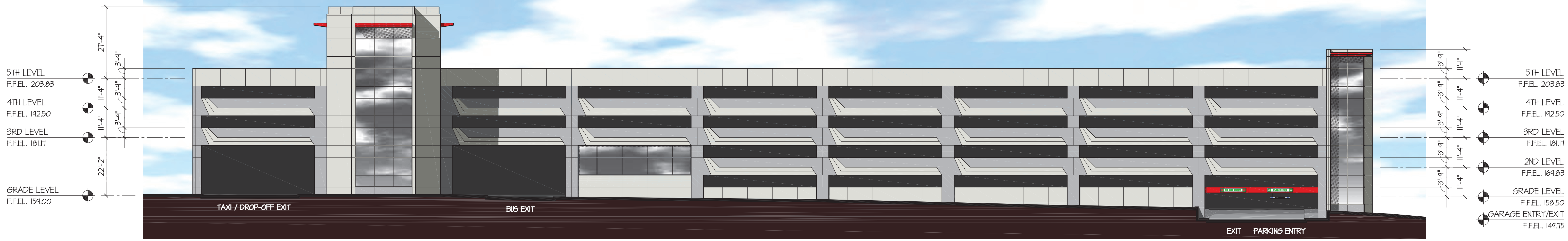
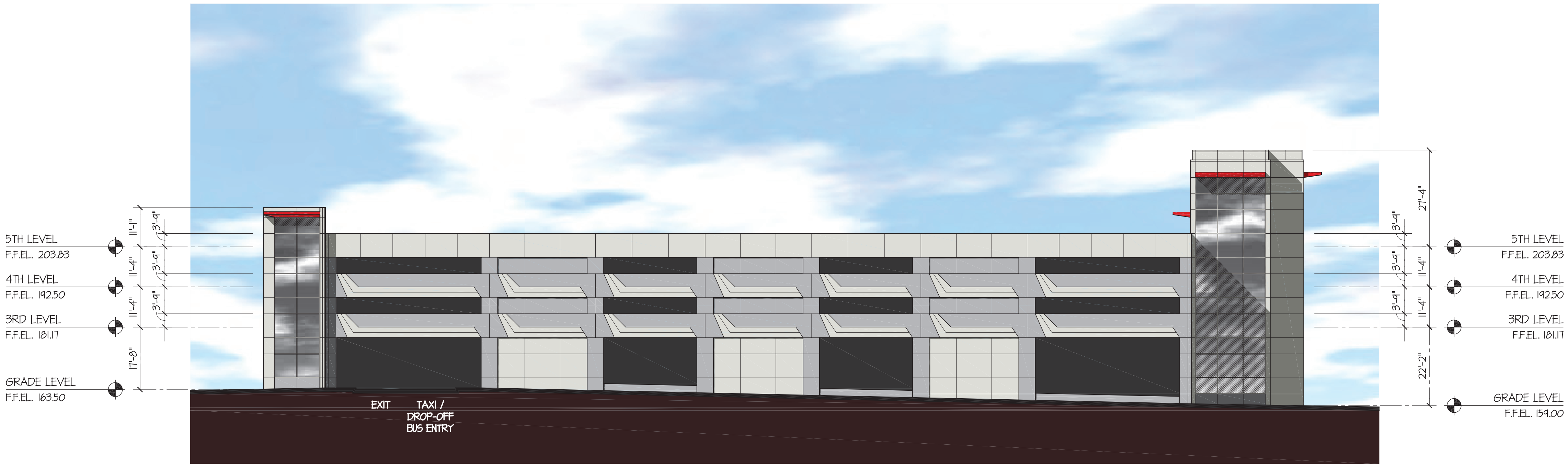
DRAWING: U:\BG-068\CADD\12 PERMITTING\L1319PM1-MITIGATION-PLANTING.DWG [LAYOUT SHEET-24X36]

5-LEVEL GARGE



S.E. ELEVATION (BURR ST.)

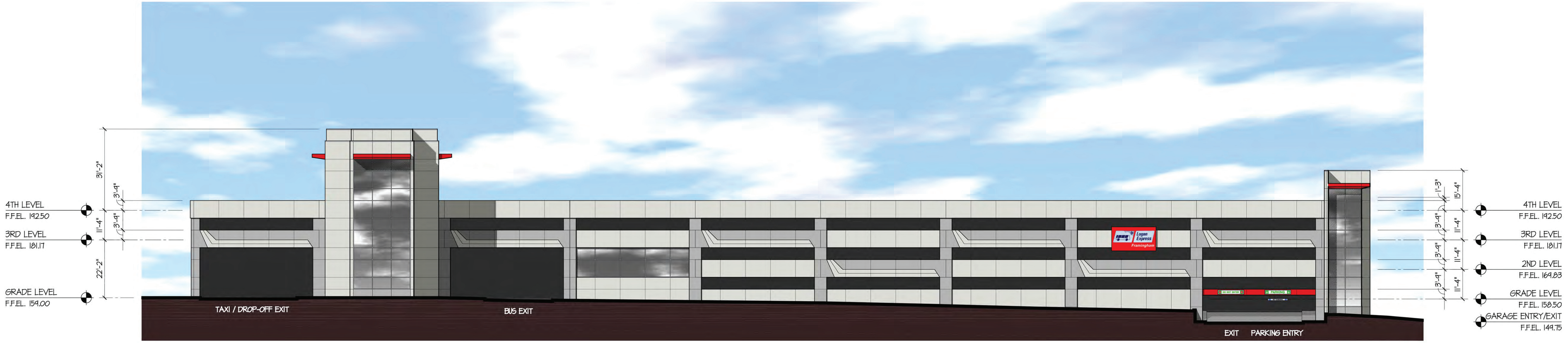
SCALE:



S.W. ELEVATION (SHOPPER'S WORLD DR.)

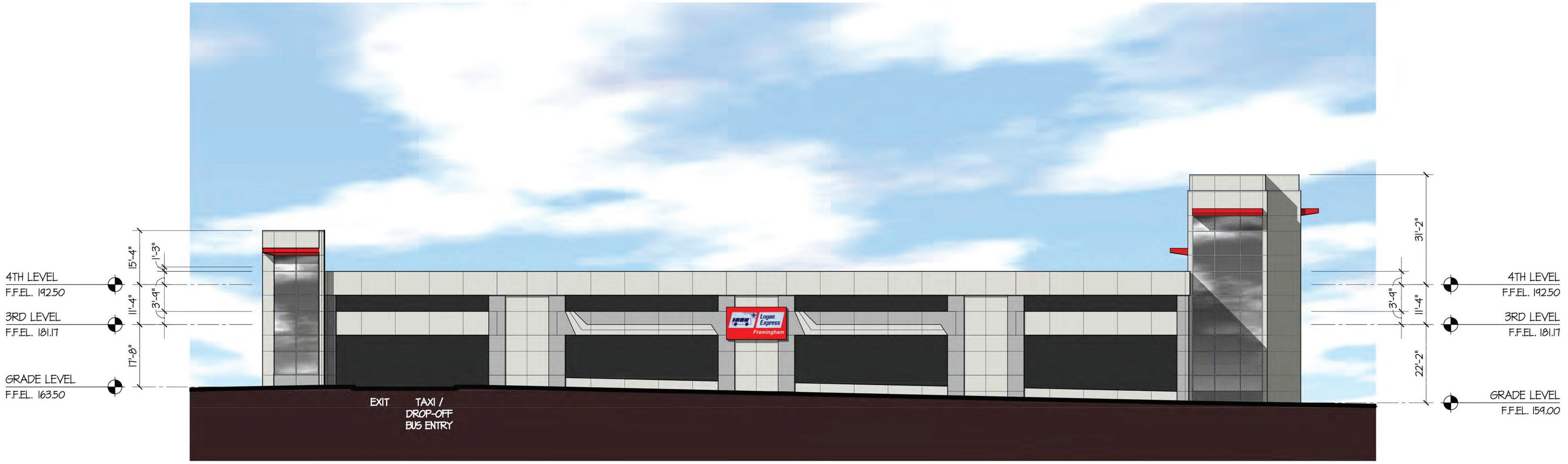
SCALE:

4-LEVEL GARGE



S.E. ELEVATION (BURR ST.)

SCALE:



S.W. ELEVATION (SHOPPER'S WORLD DR.)

SCALE:

ATTACHMENT 4
ENF Circulation List

Logan Express Parking Garage
Framingham, Massachusetts
Project L1319

ENF Circulation List

Secretary of Energy and
Environmental Affairs
Attention: MEPA Office
100 Cambridge Street, Suite 900
Boston, MA 02114   (2 copies)

Department of Environmental Protection
Commissioner's Office
One Winter Street
Boston, MA 02108

Department of Environmental Protection
Northeast Regional Office
Attention: MEPA Coordinator
205B Lowell Street
Wilmington, MA 01887

Massachusetts Department of Transportation
Highway Division
Public/Private Development Unit
10 Park Plaza
Boston, MA 02116

Massachusetts Department of Transportation
Highway Division
District 5
Attention: MEPA Coordinator
Box 111, 1000 County Street
Taunton, MA 02780

Metropolitan Area Planning Council
60 Temple Place, 6th Floor
Boston, MA 02111

Massachusetts Department of Transportation
10 Park Plaza, Room 4160
Boston, MA 02116

Framingham Board of Selectmen
Town Hall
150 Concord Street
Framingham, MA 01702

Framingham Planning Board
Town Hall
150 Concord Street
Framingham, MA 01702

Framingham Conservation Commission
Town Hall
150 Concord Street
Framingham, MA 01702

Framingham Board of Health
Town Hall
150 Concord Street
Framingham, MA 01702

Natural Heritage and Endangered Species
Program
Commonwealth of Massachusetts
100 Hartwell, Suite 230
West Boylston, MA 01583

Massachusetts Bay Transportation Authority
Attention: MEPA Coordinator
10 Park Plaza, 6th Floor
Boston, MA 02116-3966

Massachusetts Water Resources Authority
Attention: MEPA Coordinator
100 First Avenue/Charlestown Navy Yard
Boston, MA 02129

Massachusetts Historical Commission
The Massachusetts Archives Building
220 Morrissey Boulevard
Boston, MA 02125

BRE DDR, Inc.
Shoppers World
1 Worcester Road
Framingham MA   01701

Jim Rider
The MathWorks, Inc.
3 Apple Hill
Natick, MA 01760

Natick Board of Selectmen
Natick Town Offices
13 East Central Street
Natick, MA 01760

Natick Planning Board
Natick Town Offices
13 East Central Street
Natick, MA 01760

Natick Conservation Commission
Natick Town Offices
13 East Central Street
Natick, MA 01760

Natick Board of Health
Natick Town Offices
13 East Central Street
Natick, MA 01760

Amy Jordan Friedland
Senior Corporate Counsel, REI
6750 South 228th Street
Kent, WA 98032

Garry Holmes, SIOR, President
R.W. Holmes Realty Co., Inc.
321 Commonwealth Road, Suite 202
Wayland, MA. 01778

ATTACHMENT 5
Correspondence

2013.11.07/26 Letter between Massachusetts Port Authority and Massachusetts Historical Commission RE: Site Historic Review

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DEC 02 '13

F.S.&T.

ENGINEERS
FST
Since 1914

FAY, SPOFFORD & THORNDIKE
5 Burlington Woods
Burlington, MA 01803
Toll Free: 800.835.8666
Main: 781.221.1000
Fax: 781.229.1115
www.fstinc.com

November 7, 2013

Ms. Brona Simon, State Historic Preservation Officer
MASSACHUSETTS HISTORICAL COMMISSION
220 Morrissey Boulevard
Boston, MA 02125

RECEIVED

NOV 08 2013

MASS. HIST. COMM

RC.55071

Subject: State Historic Review
Framingham Logan Express Parking Garage
Framingham, Massachusetts
Massachusetts Port Authority Project No. L1319-D1

Dear Ms. Simon:

The Massachusetts Port Authority (Massport) is proposing improvements to the existing Logan Express parking facility in Framingham at 1 Worcester Road (on the corner of Shoppers World Drive and Burr Street - see Figure 1). Massport's four Logan Express facilities provide travelers with secure parking and bus service to all terminals at Logan Airport.

The Logan Express facility in Framingham currently consists of a one-story concrete masonry unit bus terminal and adjacent 374-space surface parking lot, constructed in 1996. This parking facility is within the highly developed Massachusetts Turnpike (I-90)/Route 30/Route 9 corridor in the Framingham/Natick area. Adjacent land uses include the Shoppers World Plaza, REI store, the AMC Premium Cinema, Liberty Mutual office building, Home Goods/Target stores and numerous other retail, restaurant, and commercial buildings and associated parking lots.

Due to consistently high demand for this bus service, Massport is seeking to consolidate and increase the amount of parking available at its Framingham location. Massport is proposing to construct a five-level, 1,500-space parking garage within the existing property, essentially replacing the existing surface parking lot. The existing 1996 terminal building will be demolished and replaced in its entirety within the new garage structure.

Massport previously filed an Environmental Notification Form (ENF) under the Massachusetts Environmental Policy Act (MEPA) on January 16, 2001 for a 1,081 space garage (surface and garage parking). The Secretary of Environmental Affairs issued a Certificate on the ENF February 23, 2001 which determined that the preparation of an EIR was not required. This project was not constructed at that time. Due to the length of time that has elapsed since the issuance of the MEPA Certificate in 2001, the filing of a new ENF is required and will be filed shortly. An ENF is required for this project because the proposed parking garage exceeds the MEPA review threshold for the construction of 300 or more new parking spaces at a single location.

There were no historic sites on or surrounding the proposed project site when the 2001 ENF was filed. A review of the current MACRIS database also found there to be no identified historic sites. MPA respectfully requests your concurrence that the existing building and site at the Logan Express terminal in Framingham are not listed or eligible for listing on the National Register of Historic Places, and the

ATTACHMENT 6
Traffic Impact and Access Study

Fay, Spofford & Thorndike
January 2014

TRAFFIC IMPACT AND ACCESS STUDY

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TRAFFIC IMPACT AND ACCESS STUDY

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ES - EXECUTIVE SUMMARY

The following Traffic Impact and Access study evaluates the traffic implications associated with the expansion MassPort's (MPA) existing Logan Express parking facilities located adjacent to Shoppers World in Framingham. The existing Logan Express consists of three surface lots of which the largest main facility provides 374 parking spaces and is open year round. An additional 500 surface parking spaces are located nearby and are utilized only in times of peak demands. Logan Express provides scheduled bus service between and the main Framingham facility and Logan International Airport (Logan) in Boston. The goal of the Logan Express system (which includes four locations) is to offer passengers and employees an alternative to driving to and parking at Logan.

In response to the high utilization of the Framingham Logan Express the MPA is poised to upgrade both the quantity and quality of parking in Framingham by consolidating all 874 surface parking spaces into a garage with the potential to support 1500 parking spaces on the site of the current main facility.

As documented in the following study, with the proposed 1500 space garage in operation there will be no meaningful changes to area traffic operations. This lack of impacts results in large part from the distribution patterns of drivers utilizing the Logan Express facility. The busiest times at the existing Framingham facility is between 7:00 and 8:00 on a typical weekday morning and 4:00 and 5:00 during a typical weekday afternoon. These times do not coincide with the weekday peak hours for traffic on area roadways which occur between 7:45 and 8:45 in the morning and 5:00 to 6:00 in the afternoon. Thus, when most drivers enter and exit Logan Express they encounter lower traffic volumes on area streets and when area roadways are at their busiest, Logan Express generates a lower number of trips. Consequently, the proposed garage would increase the transportation and air quality benefits the Logan Express system was designed to attain without impacting area travel efficiency.

As the proposed location for the new garage is on the site of the main existing Logan Express parking lot, MPA proposes to temporarily relocate day-to-day Logan Express parking and bus service during construction from Framingham to an underutilized office park. Located in Natick, the temporary site is within 1.4 miles of the existing Framingham site and is accessed from Speen Street. There are two unused surface parking lots containing 500 spaces at the Natick site. This total exceeds the total spaces available at the main Logan Express parking lot in Framingham. Overflow parking spaces will remain available in Framingham to meet peak demands. As with the existing Framingham site, Logan Express operations at this temporary site would not result in unacceptable traffic operations. The length that the site would be utilized is approximately 12 months, which is the time needed to construct the proposed Logan Express garage in Framingham. Following construction, all Logan Express operations would return to the new Framingham Logan Express facility.

I. INTRODUCTION

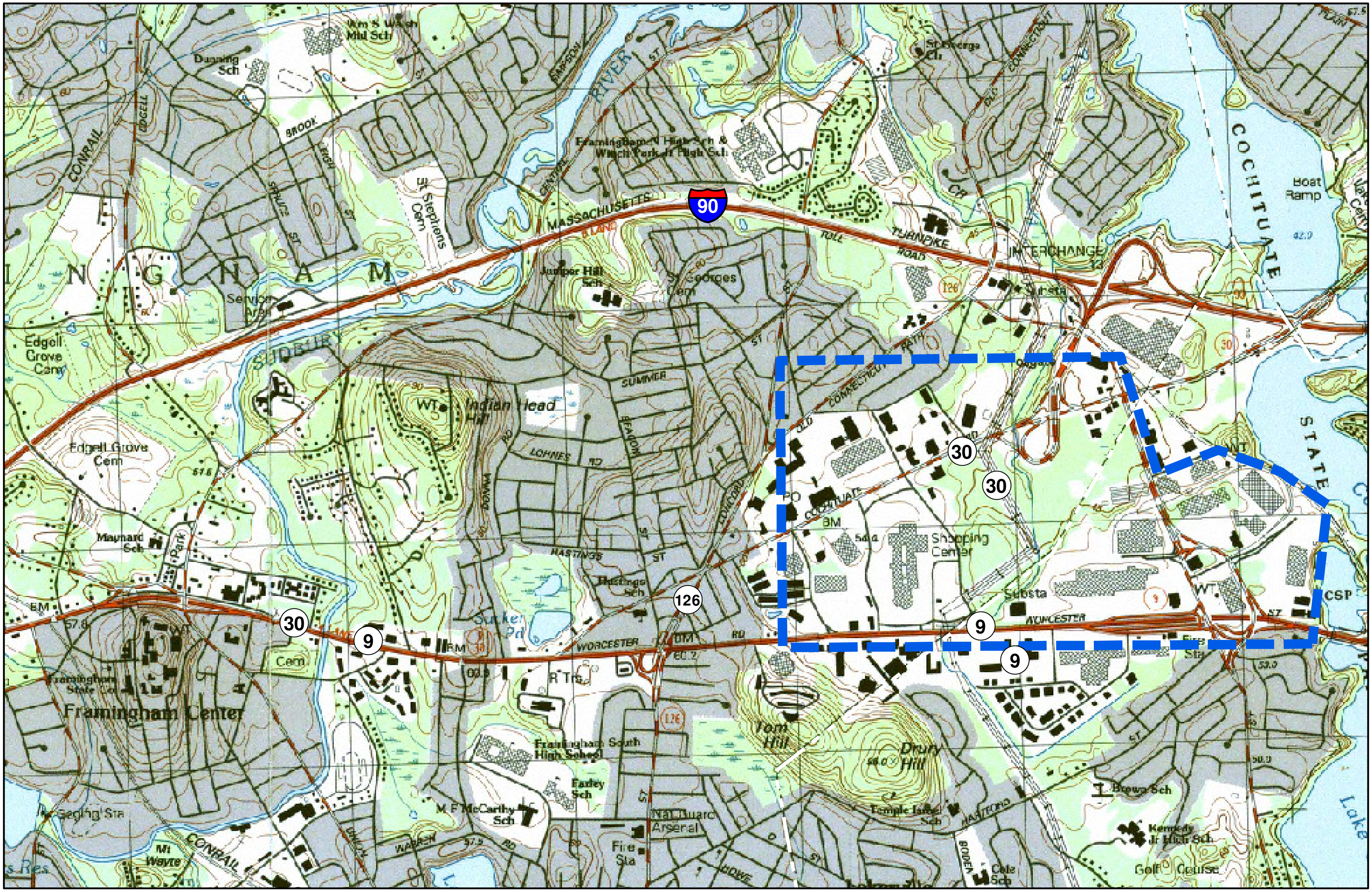
The Massachusetts Port Authority (Massport) is proposing improvements to the existing Logan Express parking facility in the Town of Framingham located in close proximity to the Massachusetts Turnpike (I-90) at the corner of Burr Street and Shoppers World Drive (Figure 1). Massport secured approvals for improvements to this facility in early 2001. Following the events of September 11, 2001, however, the proposed improvements were never constructed. Over the past several years, as passenger levels at Boston-Logan International Airport have returned to pre-2001 levels and beyond, ridership at Massport's Framingham Logan Express facility have similarly recovered. Between 2012 and 2013, the average daily parking demand for this location increased by 12%.

To meet this existing and projected demand, Massport is proposing to increase the parking capacity and consolidate four existing surface parking lots with a phased 5-level garage (grade plus four parking decks) to support up to 1,500 cars at this facility. Construction of a single garage with an integrated replacement terminal building will add to Massport's High Occupancy Vehicle (HOV) capacity for passengers and employees enhance customer service and alleviate the inefficiencies experienced today in serving the three separate overflow parking lots which today comprise the Framingham Logan Express facility (Figure 2).

Purpose and Need

The purpose of this project is to expand reliable and convenient access for HOV service to Boston Logan International Airport Logan for passengers and employees in the MetroWest/Framingham area. Currently, the Framingham Logan Express facility can accommodate up to approximately 875 vehicles, though existing demand can exceed that capacity during Logan's seasonal peak travelling periods.

Over the past several years, on-airport parking demand at Logan Airport has routinely exceeded capacity. In response, Massport has heavily promoted the use of the four Logan Express sites. In addition to more frequent service at the most heavily used locations and reduced parking rates at all locations, these seasonal promotions have included fare reductions. As a result, particularly at the Framingham location, parking demand now exceeds capacity at the primary lot more than 90% of the time. As described below, use of the adjacent overflow lots require additional bus stops and even these locations are now periodically unable to meet demand. As Logan continues to grow to meet forecast regional demand, the need for enhanced HOV services will

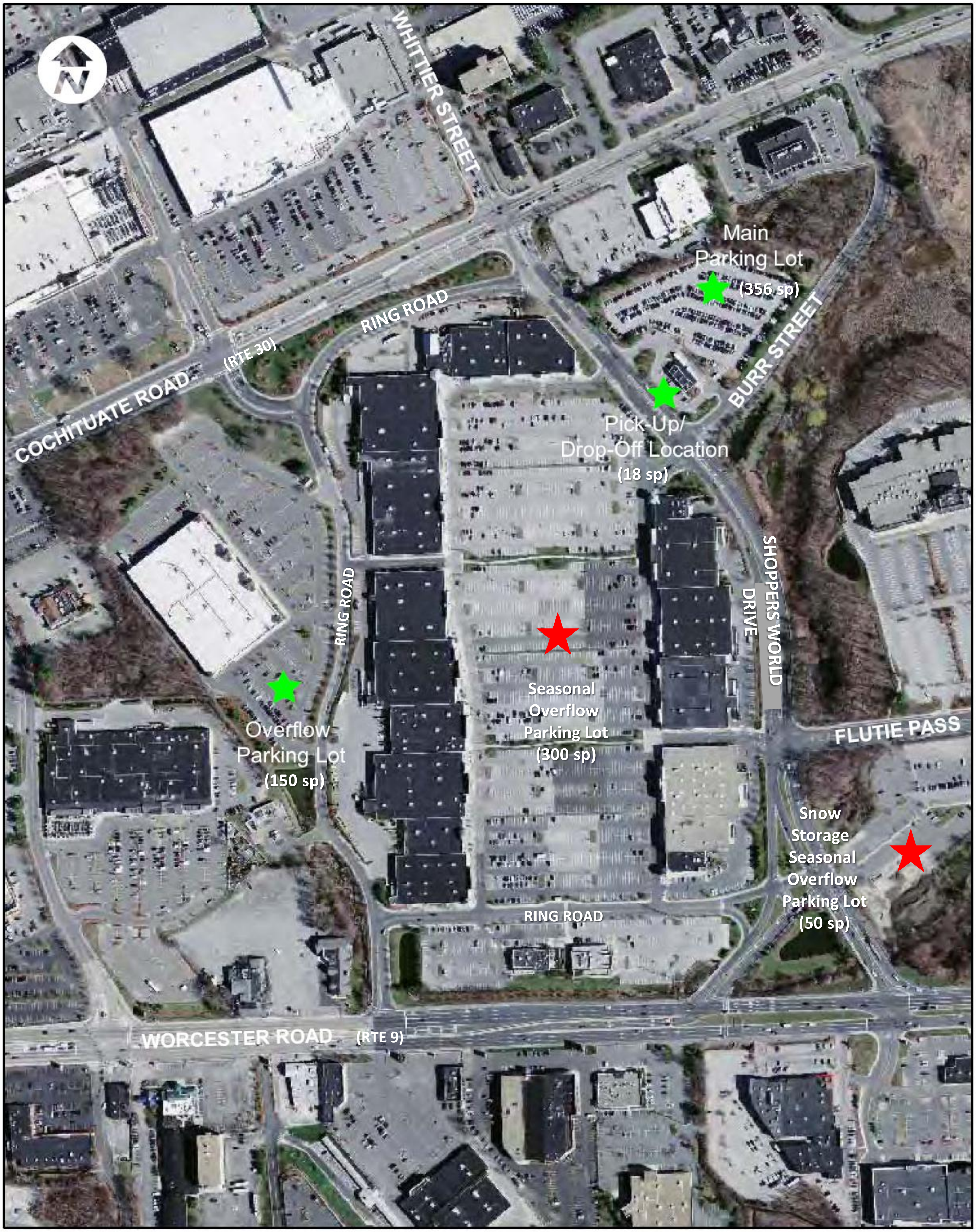


Map Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs

massport

Figure 1 - Study Area Locus Map

Logan Express - Framingham
January 2, 2014



★ License Plate Survey Location

★ Additional Overflow Lot

0 250 500 Feet

Figure 2
Framingham Logan Express
Parking System

become more critical. Phased construction of a new garage at the existing Framingham Logan Express site allows Massport to help meet the growing regional HOV demand.

Existing Framingham Logan Express Terminal and Parking System

At the present time, the main Framingham Logan Express (FLEX) terminal building is served by 374 at grade Massport-owned parking spaces developed for this purpose in 1996. Of Massport's owned parking supply, 356 are long-term parking spaces with 6 handicapped accessible spaces, and 18 are short-term drop-off/pick-up spaces, 4 of which are handicapped accessible. Additionally, three taxi spaces are provided. Up to four buses can stage simultaneously in two lanes with two buses each adjacent to the east side of the FLEX terminal with a third lane available for bypass. Buses flow in a clockwise direction, turning right or left from Shoppers World Drive, stopping and discharging/embarking passengers and turning right or left out onto the Burr Street.

Because demands for short and long term parking at main FLEX facility exceeded the number of available spaces more than 90% of the time, Massport leases a total of 500 spaces at three overflow parking lots. The three overflow lots are located within a quarter mile walking distance of the existing FLEX terminal.

The primary overflow lot has 150 leased spaces south of Kohl's Department Store features a bus stop on the FLEX route and is clearly demarcated by signs for its users with Massport logos and parking fee rates. According to Massport data, coupled with the main FLEX lot, the two facilities have a capacity of 524 spaces. This is sufficient to serve peak FLEX parking demands 92.5% of the time during the mid-February to mid-October eight month period in 2013. During the days when parking demands exceeded the capacity of the two lots, overflow demands exceeded a hundred vehicles only six days, during April 2013, or 2.5% of the time.

The larger of the remaining two leased parking lots is an unmarked 300 space Shopper World interior lot nearly central to the primary Shopper's World surface parking area. Unavailable to Massport users during the peak shopping season between

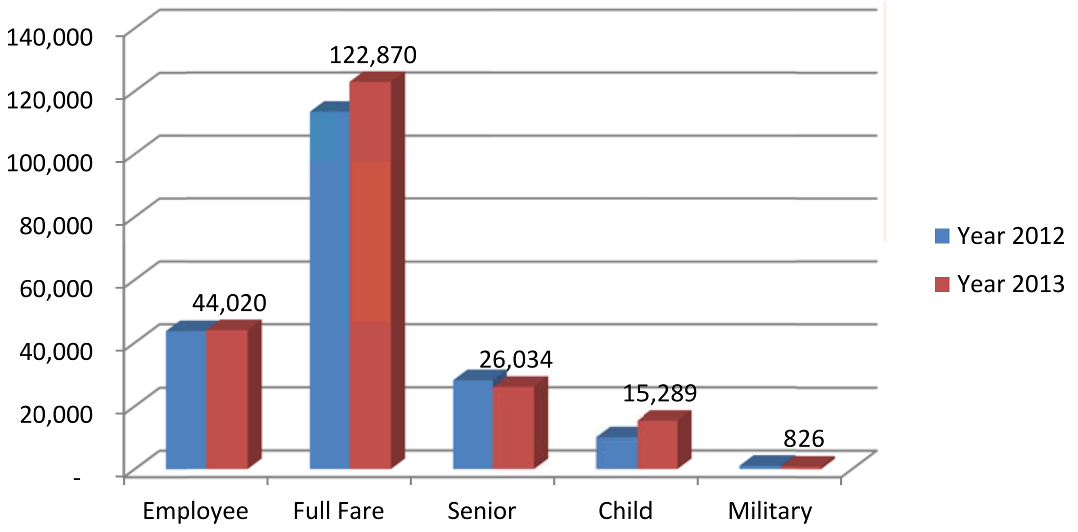
Thanksgiving and Christmas, these spaces are purposely located in the center of the large surface parking area away from the most convenient spaces closest to Shoppers World retail businesses.

Additionally, 50 spaces are leased at the AMC overflow lot adjacent to the Massachusetts Department of Transportation (MassDOT) lot just off Route 9. The unmarked 50-space lot is available except when snow storage is required and was unoccupied during a recent mid-day observation on Friday October 18, 2013. Historical data indicates that storage of the long term parking demands at either of these two lots is relatively rare.

Framingham Logan Express User Characteristics

Massport data indicates that from a comparable 8-month period from mid-February through mid-October for 2012 and 2013, trends for users of FLEX are as follows:

Framingham Logan Express User Characteristics

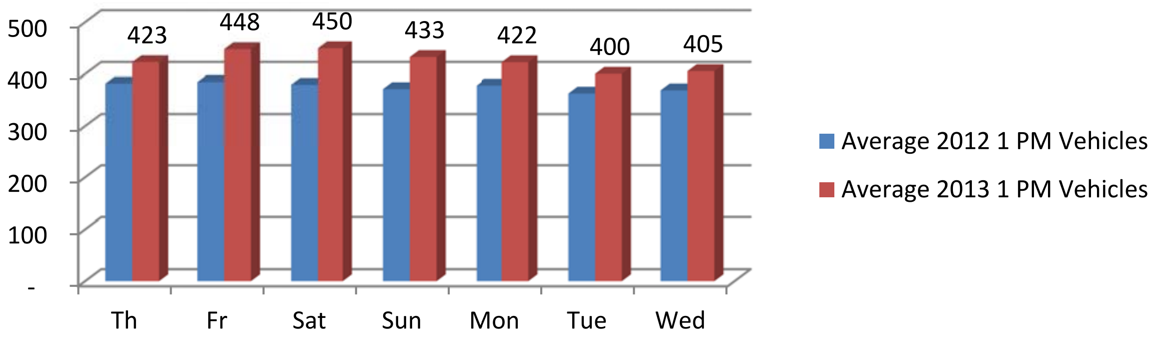


Massport data indicates that paid and non-paid FLEX users grew by 6.4% during the comparable 8 month period – from an aggregate of 196,542 users in 2012 to 209,039 users in 2013.

On a daily basis, long term users of FLEX services tend to carpool to the site. Based on Massport's FLEX data, during mid-February through mid-October 2013, there are a total of average of 870 FLEX paid and non-paid riders versus an average peak 1 PM parking demand of 428 vehicles – or slightly more than 2 riders per peak space occupied.

Distribution of parking demand trends by day of the week between the same 2013 eight month period is illustrated on the next page. As can be seen, Friday and Saturday are typically the peak days for FLE parking demands and typical day of week parking demands grew by more than 12% between 2012 and 2013.

Trends in Framingham Logan Express Combined Parked Vehicles Measured at 1 PM 2012-2013 by Day of the Week



With the exception of staff assigned to park at the Kohl's lot, all non-staff overflow lot users must obtain parking tickets at the main FLEX terminal prior to parking. Only the Kohl's lot is a designated stop on the FLEX bus route.

While the two less publicized FLEX overflow lots are located within a five to ten-minute walk of the existing Framingham Logan Express building, the walk would be inconvenient for persons carrying luggage or with disabilities. When used, both the Shoppers World and AMC overflow lots are used as a valet park operation or served by courtesy vans that shuttle between the remote lot and Logan Express Terminal. The use of a valet operation or van pick-up is an operational decision based on passenger loads.

From the 1 PM daily parking surveys of the FLEX parking facilities grew 12.6% for the same 8 month period of mid-February to mid-October from 2012 to 2013. As long term parking demands for Logan Airport increase, it is anticipated that the need for convenient one-stop park/fly from the FLEX site will also increase.

Study Methodology

This study evaluates the impacts that the proposed expansion and consolidation of the FLEX parking supply will have on traffic volumes and traffic and FLEX bus operations in the site vicinity under construction period and post-construction period conditions. Analyses were conducted in accordance with MassDOT's Traffic Analysis Guidelines.

To address potential traffic impacts of consolidating the FLEX parking supply, an extensive data collection effort was undertaken. FST coordinated with Massport staff to identify changes in the project area and project goals. New intersection traffic turning movement counts and automatic traffic recorder counts were performed in Framingham and Natick, the two communities directly affected by the FLEX service changes during and post construction. A sample license survey was conducted of long term and short term users of FLEX main and Kohl's lots. This data, within the context of existing driveway turning movements at the main terminal was used to identify likely routes of travel for future garage users and temporary lot users during construction. Existing peak hour trip generation/distribution was estimated based on the new counts and FLEX data supplied by Massport and the anticipated growth in usage between 2013 and 2020.

In addition to traffic related data, historical crash trends in the study area were identified for the most recent available three-year period of 2009-2011 and crash analyses were conducted using MassDOT crash rate calculation procedures.

Central Transportation Planning Staff provided a future background traffic growth rate in the study area based on its regional traffic model. Traffic estimates from several future development projects permitted/approved but not yet occupied in Framingham and Natick were obtained and added onto the background traffic growth projections provided by CTPS to compile future year analysis projections to represent year 2020 Build and No-Build conditions.

Projections were made of traffic conditions during construction, when the main FLEX site will be relocated temporarily to the former Boston Scientific site off Prime Parkway in the Town of Natick. For analysis purposes, a year 2015 construction period analysis was undertaken and traffic operations were assessed at ten study area intersections most affected during construction. The former Boston Scientific site, with a 500 car capacity, will temporarily house FLEX activities. The site has the ability to accommodate nearly a third more vehicles than the existing 374-space main FLEX lot that will be unavailable while the new multi-modal facility and garage are under construction. It also has only 20 fewer spaces than the combined FLEX main and Kohl's lots.

Construction period projections assume the other three leased overflow parking lots will remain in use at least until the garage is opened at the existing site. Therefore, during construction, the FLEX parking capacity, inclusive of its three overflow lots totaling 500 spaces will increase from its existing 874 spaces capacity to a temporary 1000-space capacity, inclusive of all overflow lot leased areas.

Finally, projections were made of year 2020 traffic volumes and operating conditions with and without the expansion and consolidation of the FLEX parking supply to a $^{\pm}$1,500 car space capacity for short and long term users with enhanced bus flow accommodations at a reconfigured terminal incorporated on the site.

II. EXISTING CIRCULATION (2013)

To assess existing circulation at the FLEX site, a study area was established. Within the study area, existing site data was reviewed and where data gaps were found, new information was obtained. The purpose of the supplemental data collection effort was to:

- Obtain traffic analysis information for a consistent period of time;
- Identify the current distribution of vehicular travel to and from the FLEX site and its long term parking areas;
- Provide a basis for analyzing construction-period traffic impacts during the 1.5 year period when garage construction will temporarily remove the existing facility and parking area from use.
- Provide a basis for projecting future trip-making associated with the FLEX site when the garage is constructed and fully occupied; and
- Identify locations where future traffic operations could be adversely affected and whether the level of impact associated with traffic from the FLEX site can be considered as ‘significant’ at each of the locations evaluated.

Study Area

Refer to Figure 3 for an illustration of the study area and intersections evaluated as well as a summary of existing count locations. For traffic analysis purposes, the study area for the FLEX site was defined as:

- Cochituate Road (Route 30) between the Shoppers World Way to the west and Speen Street to the east forms the approximate northerly boundary.
- Speen Street between Cochituate Road (Route 30) and Superior Drive forms the easterly boundary. Superior Drive between the Speen Street interchange will experience most of the FLEX traffic during the 2014 year period while the garage is under construction at the main site.
- Ring Road and Shoppers World Way at Cochituate Road (Route 30) and Worcester Road (Route 9) form the westerly boundary.
- Worcester Road (Route 9) between the Ring Road and Shoppers World Drive forms the southerly boundary.

Data Collection

Several types of data collection were undertaken. A physical inventory of traffic operational field conditions was conducted on September 26, 2013. Existing traffic signal data was compiled for signalized intersections within the Town of Framingham and for signalized intersections within the Town of Natick located in the vicinity of the former Boston Scientific site, assumed to be the temporary Logan Express terminal and primary parking supply.

Several types of traffic volume counts were performed. Automatic and weekday AM/PM peak period manual turning movement, vehicle classification, and pedestrian/bicycle counts were obtained between 7-9 AM and 4-6 PM on a typical weekday. Refer back to Figure 3 for a summary of the manual and automatic traffic count locations.

Concurrently, an origin/destination survey of existing long term parkers and drop-off/pick-up FLEX users was performed to determine the distribution pattern of FLEX short and long term users. Historical crash information was also obtained reviewed for the most recently available three-year period.

FST contacted Framingham and Natick planning officials to identify future developments that may affect traffic operations at intersections in the FLEX traffic study area. While CTPS background traffic growth rates from its regional traffic model include an estimate of all development in the area, the traffic from development sites was added to provide a conservative (high side) analysis of traffic in the study area.

A summary of programmed roadway infrastructure improvements was also obtained and reviewed.

Physical Inventory

A physical inventory of FLEX parking system and key intersections and streets included in the study area was undertaken.

Framingham Logan Express Access

The primary FLEX site is conveniently located close to three regionally significant east-west corridors – the Massachusetts Turnpike (Interstate 90), Cochituate Road (State Route 30), and Worcester Road (State Route 9). It is located just east and adjacent to the Shoppers World retail commercial area far from sensitive residential areas in the northeast quadrant of the intersection of Shoppers World Drive at Burr Street. Two driveways provide existing access to the site. An entrance/non-bus exit is provided via a four-legged unsignalized intersection on Shoppers World Drive approximately 300 feet north of its signalized intersection with Burr Street. The FLEX driveway on Shoppers World Drive is approximately 26 feet wide and accommodates two-way traffic. Shoppers World Drive is median divided and has two travel lanes in each direction. Southbound on Shoppers World Drive, a median break with a left-turn access lane approximately 70 feet in length serves as the bus entrance to the site. The driveway allows rights and lefts in and out for non-bus traffic.

The site's exit-only 24-foot wide driveway is located approximately 130 feet east of Shoppers World Drive on Burr Street. Separate lanes for right- and left-turn exit movements are provided.

The leased 150-space lot south of Kohl's Department Store is the only clearly-signed overflow lot for FLEX and serves all demands except approximately 8% of the time. This lot is accessed via two stop controlled driveways, north and south driveway off the two-lane Ring Road and is served directly by the FLEX buses. Automobile users of the 300-space Shoppers World leased spaces can access them via any of the many driveways along Ring Road and Shoppers World Drive. Access to the AMC overflow lot is provided via Flutie Pass. Both the 300-space Shoppers World overflow lot and the 50-space AMC snow storage lot are served by courtesy vans or taxis as needed and are not on the regular FLEX bus route.

Peter Pan Bus Lines is currently the only service carrier providing regularly scheduled service between Boston and Framingham unrelated to Logan Airport. Only seven outbound and eight inbound bus trips are offered by Peter Pan Bus Lines each day to downtown Boston.

Bus traffic enters the FLEX site via Shoppers World Drive and exits exclusively via the Burr Street driveway. However, the existing traffic pattern allows drop-off/pick-up automobile traffic to exit the site via either the driveway on the Shoppers World Drive or the Burr Street Extension driveway exit. FLEX buses enter via the southbound left-turn lane on Shoppers World Drive and exit via a right movement onto Burr Street Extension to travel to the Kohl's overflow lot. Non-LEX buses make a left-turn out onto Burr Street Extension toward Cochituate Road.

Following is a description of the corridors within the study area corridors (refer back to Figure 3):

Cochituate Road (State Route 30)

Cochituate Road is a generally northeast-southwest-oriented arterial that traverses several eastern Massachusetts communities. While a state-numbered route, Cochituate Road is controlled by the Town of Framingham. Its posted speed limit is 30 miles per hour. Through the study area, Cochituate Road is median divided, has two through lanes in each direction, and is bounded mainly by commercial land uses. At critical signalized intersections, Cochituate Road has been widened to provide left and right turning lanes. Within the study area, its four intersections with Speen Street, Burr Street, Whittier Street/Shoppers World Drive, Shoppers World Way /Ring Road are traffic signal-controlled and all located in the Town of Framingham.

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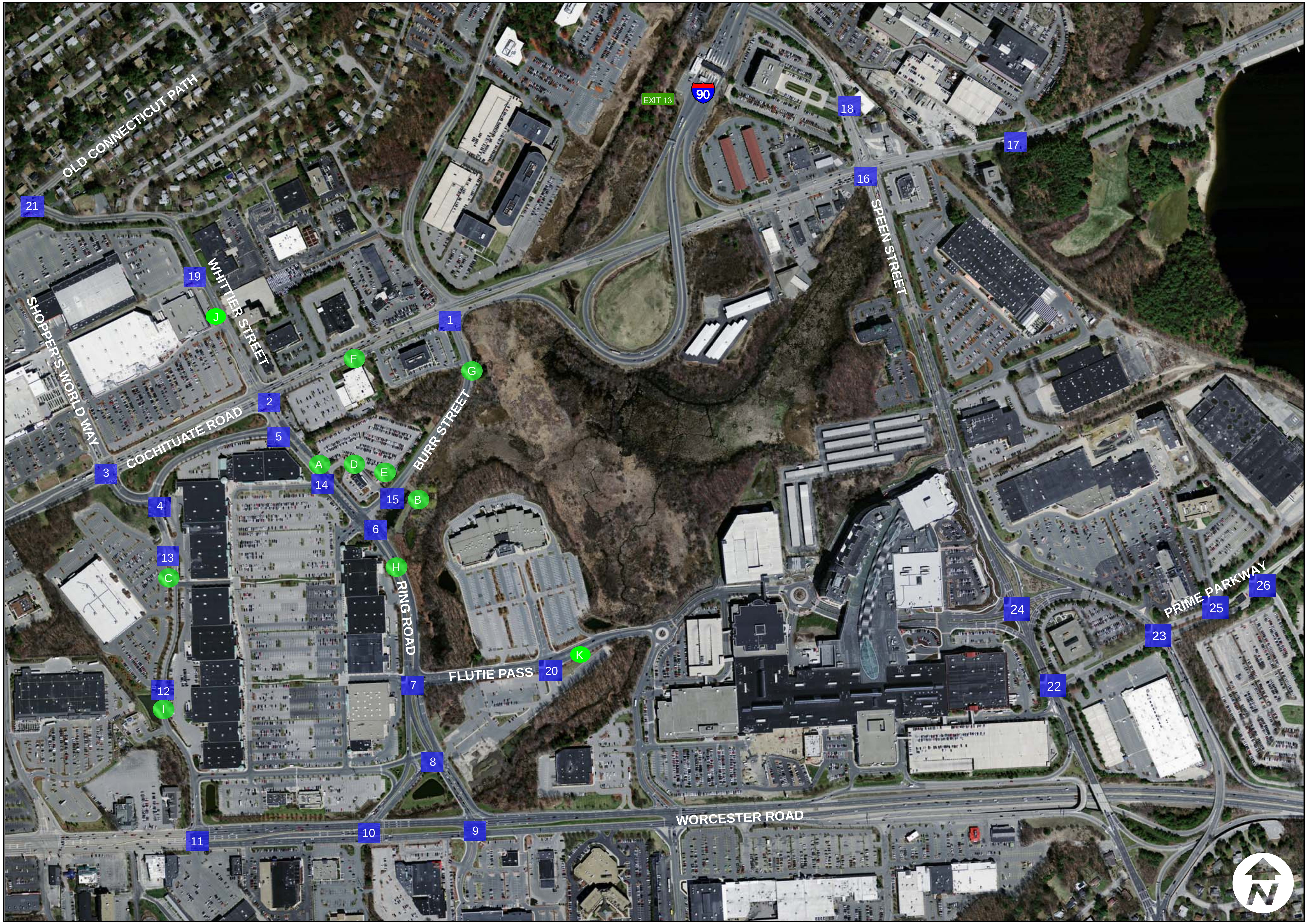
Figure 3 Traffic Count Locations
Framingham

Turning Movement Counts (TMC)

1. Burr Street at cochituate Road/ Route 30
2. Whittier Street and Ring Road at Cochituate Road/Route 30
3. Shopper's World Way and Ring Road at Cochichtuate Road/Route 30
4. Ring Road at Ring Road (west)
5. Ring Road at Ring Road (east)
6. Burr Street at Ring Road
7. Ring Road at Flutie Pass
8. Ring road at Ring Road (southeast)
9. Worcester Road/ Route 9 at Ring Road (east)
10. Worcester Road/ Route 9 at Ring Road (central)
11. Worcester Road/ Route 9 at Ring Road (west)
12. Ring Road at Kohl's southern Driveway
13. Ring Road at Kohl's northern Driveway
14. Ring Road at Logan Express Driveway and Shopper's World Driveway
15. Burr Street at Logan Express Driveway
16. Speen Street at Cochituate Road (Route 30)
17. Route 30 at TJX Driveway
18. Speen Street at TJX Driveway
19. Whittier Street at Colonial Shopping Center Overflow Lot
20. Flutie Pass at Overflow Lot
21. Whittier Street at Old Connecticut Path
22. Speen and Worcester Street (east)
23. Speen and Worcester Street (west)
24. Speen Street at Natick Mall Road
25. Prime Parkway and Northern Parking Lot
26. Prime Parkway and Southern Parking Lot

Automatic Traffic Recorder (ATR)

A. Logan Express entrance/exit on to Ring Road
B. Logan Express entrance/exit on to Burr Street
C. Logan Express overflow lot
D & E. Logan Express entrance/exit (pick-up/drop-off) to 356 space long-term parking lot
F. Cochituate Road (Route 30)
G. Burr Street
H. Ring Road
I. Ring Road at the Kohl's southern Driveway
J. Whittier Street
K. Flutie Pass



LEGEND ▪ Turning Movement Counts (TMC) ● Automatic Traffic Recorder (ATR)

massport

From east to west:

At Speen Street, westbound Cochituate Road approach has three lanes including a two through lanes and exclusive left turn lane. The southbound Speen Street approach to the intersection has four lanes striped to provide an exclusive left-turn lane, two through lanes and an exclusive right turn lane. The eastbound Cochituate Road approach has four lanes including an exclusive left- and right turn lanes with two through lanes. The northbound Speen Street approach has four lanes including a double left turn lane, a through lane, and a shared through/right lane.

At Burr Street, the westbound Cochituate Road approach has three lanes including a right-turn only lane and two through lanes. Westbound left turns are not permitted from Cochituate Road to the Burr Street. The southbound Burr Street approach to the intersection has two lanes striped to provide an exclusive left-turn lane and a general purpose shared lane. The eastbound Cochituate Road approach has three lanes including an exclusive left-turn lane, a through lane, and a shared through/right lane. The northbound Burr Street approach has two lanes including a shared through/left-turn lane and a channelized exclusive right-turn lane.

At Whittier Street and Shoppers World Drive, the westbound Cochituate Road approach flares out to provide three lanes including an exclusive left-turn lane, a through lane, and a shared through/right lane. The existing southbound driveway from Whittier Street includes an exclusive left-turn lane, a shared through/left lane, and a shared through right lane. The eastbound Cochituate Road approach provides an exclusive left-turn lane, two through lanes and two exclusive right-turn lanes separated from the through movements by a channelization island. The northbound Shoppers World Drive approach is median-divided and provides two approach lanes, an exclusive right-turn lane and a through lane. While northbound left turns are not allowed, motorists were observed as making this maneuver during the AM and PM peak hours.

At Shoppers World Way and Ring Road, the westbound Cochituate Road approach flares out to provide an exclusive left-turn lane, two through lanes and an exclusive right-turn lane. The southbound Shoppers World Way approach provides three approach lanes including an exclusive left-turn lane, a shared left/through lane, and an exclusive right-turn only lane separated by a channelization island. The eastbound Cochituate Road approach is a mirror image of the westbound approach as it also provides exclusive left and right-turn lanes and two through lanes. The northbound approach has three lanes including two exclusive left-turn lanes and a shared through/right lane, and is median divided.

Worcester Road (State Route 9)

Worcester Road (State Route 9) is a generally east-west oriented arterial. Like Cochituate Road, it traverses several Massachusetts communities. Unlike Cochituate Road, Worcester Road is under the jurisdiction of the MassDOT.

Through the study area, Worcester Road is median divided, typically provides three through lanes in each direction, and has commercial land uses adjacent to it. Its posted speed limit is 40 miles per hour through the study area. Worcester Road has been widened at critical intersections to provide auxiliary lanes for heavy turning movements. Worcester Road also forms the southern boundary of a large commercial area in Framingham and Natick known as the 'Golden Triangle.' The other two boundaries of the Golden Triangle are Speen Street to the east and Cochituate Road/Concord Street/Old Connecticut Path to the north and west. Within the study area, Worcester Road has signalized intersections at Shoppers World Drive, the Ring Road West Couplet, and the Ring Road.

Again, from east to west:

At its intersection with Shoppers World Drive, the westbound Worcester Road approach provides five lanes including an exclusive right-turn lane, three through lanes, and an exclusive left-turn lane. The southbound Shoppers World Drive approach intersects Worcester Road at a skew to the west to foster left turn movements out of Shoppers World heading eastbound on Worcester Road. The southbound Shoppers World Drive approach is median divided and provides an exclusive left-turn lane and a shared through left-turn lane. The eastbound Worcester Road approach has three lanes including two through lanes and a shared through/right lane towards the Loew's Cinema driveway. Eastbound left turns are not permitted and are geometrically constrained, as they are provided at the West Couplet intersection just upstream of this intersection. The northbound approach of the Loew's Cinema driveway has two lanes, including exclusive left- and right-turn lanes.

The Ring Road West Couplet intersects Worcester Road at an acute angle to foster right-turn lane movements westbound to Worcester Road and eastbound left-turn lane movements from Worcester Road to the Ring Road West Couplet and Shoppers World. The westbound Worcester Road approach has three through lanes. The southbound Ring Road West Couplet has two right-turn lanes only. Eastbound Worcester Road has a double left-turn lane and three through lanes. The signal operation permits pedestrian crossings of Worcester Road immediately to the east of the intersection and the Ring Road West Couplet.

At its intersection with the Ring Road and a private driveway to the south serving commercial developments, the westbound Worcester Road approach provides three through lanes, a double left-turn lane, and an exclusive right-turn lane. The southbound Shoppers World West Driveway approach is median divided and restricted to right turns out only in one signal-controlled right-turn lane. The eastbound Worcester Road approach has a double left-turn lane, two through lanes, and a shared through/right-turn lane. The northbound approach from a private commercial drive is also median-divided and includes a driveway wide enough for two lanes but is unmarked.

Shoppers World Drive

Shoppers World Drive provides a north-south connection between Worcester and Cochituate Roads, or State Routes 9 and 30. It has two through lanes in each direction, is median-divided and provides direct access to the FLEX facility and several Shoppers World adjacent land uses. Shoppers World Drive is privately-owned and maintained by Shoppers World. Its speed limit is 30 miles per hour.

Within the study area, Shoppers World Drive has five signalized intersections, two of which intersect public roads (Cochituate and Worcester roads) and were described previously. The other three signalized intersections are with private roads on the Shoppers World site -- i.e., the Burr Street, Flutie Pass, and the West Couplet Ring Road/Shoppers World Drive split. Auxiliary turn lanes are provided at each of these intersections, as described below. For this study, the relatively low volume intersection with Flutie Pass signalized intersection was not included.

From north to south:

At its intersection with Burr Street, the westbound Burr Street approach provides two lanes including a shared through/left lane and a shared through/right lane. The southbound Shoppers World Drive approach provides four lanes, including two through lanes, as well as exclusive left and right-turn lanes. An unnamed westbound Shoppers World driveway approaches this intersection in three lanes including a shared through/left lane, an exclusive through lane, and an exclusive right-turn lane. The northbound Shoppers World Drive approach has three approach lanes including an exclusive left-turn lane, a through lane, and a shared through/right-turn lane.

At its intersection with the Ring Road West Couplet, the southbound approach of the Shoppers World Drive has four lanes; two are exclusive right-turn lanes channelized by a median toward the Ring Road West Couplet (ultimately travelling westbound on Route 9) and two are southbound through lanes. The eastbound Ring Road West Couplet approach to the intersection is median divided and has three lanes comprised of an exclusive left-turn lane to an east-west Shoppers World distributor driveway, an exclusive left-turn lane to the Shoppers World Drive, and a shared left/right lane to Shoppers World Drive. The northbound Shoppers World Drive approach also has three lanes including an exclusive left-turn lane to the east-west Shoppers World distributor driveway, and two through lanes.

Burr Street

Burr Street is undivided adjacent to the FLEX facility and has two lanes in each direction. At its intersection with the Shoppers World Drive, Burr Street is striped for one lane in each direction to the east of the FLEX facility exit driveway. Primarily commercial uses and open space/wetlands abut Burr Street.

Shoppers World Roadways

Shoppers World provides several internal driveways including Shoppers World Drive and the Ring Road that serve primarily adjacent retail/commercial users. These roadways located between Worcester Road (Route 9) Cochituate Road (Route 30) were constructed to minimize the need for Shoppers World users to make U-turns and left turns onto the regional highway system. The circular roads provide the same advantage for use of the FLEX facility.

Traffic Volumes

Traffic volume data was collected during the last week of July 2013. Two types of counts were performed, automatic traffic recorder counts and manual turning movement counts. Refer back to Figure 3 for an illustration of the locations where automatic and manual counts were performed.

Automatic Traffic Recorder Counts

Automatic traffic recorder counts were performed over a two-day period on July 23-24th on a Tuesday and Wednesday at four driveways to obtain a two-day record of activity at the FLEX site and the primary overflow lot leased from Kohl's Department Store at Shoppers World. Observations indicate no to very little use of the two secondary overflow lots during this period. The four locations included:

- The FLEX entrance/exit on the Shoppers World Drive;
- The FLEX entrance/exit to the 356-space long term parking lot;
- The FLEX exit to Burr Street; and
- The 150-space FLEX overflow lot leased from Kohl's Department Store.

Additionally, automatic traffic recorder counts were performed at:

- Burr Street south of Cochituate Road (Route 30)
- Shoppers World Drive south of Burr Street
- Cochituate Road west of Shoppers World Drive
- Cochituate Road east of TJX Driveway
- Flutie Pass east of AMC lots
- Speen Street north of TJX Driveway
- Whittier Street north of Cochituate Road
- Ring Road south of Kohl's north driveway

On the basis of the automatic traffic recorder counts, approximately 2,562 vehicle trips are made into or out of the FLEX parking lot system during a typical M-F weekday. Of these vehicle trips, no more than 547 (21%) are related to long term Logan Airport parking and employee trips. Of the daily vehicle trips, at least 2,000 (78%) are related to drop-off/pick-up vehicles, Massport employees, and bus trips.

Rounded and seasonally adjusted average weekday traffic volumes are provided on Figure 4. Traffic volumes collected during July at the roadways in the area were approximately 1% higher than average annual conditions, and were adjusted accordingly.

Manual Turning Movement/Vehicle Classification Counts

AM and PM peak hour turning movement counts were performed at 14 intersections between 7-9 AM and 4-6 PM, the typical commuter peak hours and when roadways typically carry the highest volumes. Of these, 11 intersections were evaluated for existing and future No-Build/Build conditions. A total of 10 intersections were evaluated to represent year 2015 construction period conditions. It is only during this period that the former Boston Scientific site will temporarily serve as the terminal and primary parking area for FLEX operations while the garage is being constructed. From the data collected, the typical AM commuter peak hour in the study area occurs from 7:45-8:45 AM, while the typical PM commuter peak hour occurs from 5:00-6:00 PM. Traffic volume counts include truck and automobile turning movements as well as pedestrians and bicycles at the locations illustrated previously on Figure 3. Manual count locations included:

- Burr Street at Cochituate Road (Route 30)**
- Whittier Street and Shoppers World Drive at Cochituate Road (Route 30) **
- Shoppers World Way at Cochituate Road (Route 30) at and Ring Road **
- Burr Street at Shoppers World Drive [Framingham]
- Shoppers World Drive at the Ring Road West Couplet [Framingham]
- Worcester Road (Route 9) at Shoppers World Drive [Framingham] **
- Worcester Road (Route 9) at the Ring Road West Couplet [Framingham] **
- Worcester Road (Route 9) at Ring Road (west) [Framingham] **
- Shoppers World Drive at Logan Express Driveway and Shopper's World Interior Driveway [Framingham]
- Burr Street at Logan Express Driveway [Framingham]
- Speen Street at Cochituate Road (Route 30) [Framingham] **
- Speen Street at Natick Mall Road [Natick]*
- Superior Drive at Temporary Framingham Logan Express Driveway [Natick]*
- Speen Street East at Superior Drive [Natick]*
- Superior Drive at Northern Mathworks Parking lot driveway
- Superior Drive at Southern Mathworks Parking lot driveway

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* Locations evaluated for 2015 construction period only.

** Locations evaluated for existing, construction period, and post-construction.

Existing AM and PM peak hour turning movement volumes at 15 intersections are summarized on Figures 5 and 6.

Existing Traffic Operations

Traffic volume data illustrated on Figures 5 and 6 was analyzed to determine the quality of existing traffic operations in the vicinity of the Logan Framingham Express site.

Level of Service (LOS) is a commonly accepted measure of effectiveness of peak hour traffic operating conditions. The methodology for determining LOS is identified in the Highway Capacity Manual (HCM, 2010 Edition). LOS accounts for such factors as automobile and truck volumes, roadway capacity, speeds, grades, traffic control devices, the progression of vehicular traffic flow along an arterial roadway, roadway types, pedestrian and bicycle activity, roadway widths and geometric layouts, as well as anticipated delays. Levels of service range from **A**, the optimal condition, to **F**, the condition where traffic demands are beyond capacity or create excessive delay conditions. At LOS **E** and LOS **F,** roadway or intersection operations are typically regarded as 'undesirable'. Thus, LOS **D** has typically become a threshold between desirable and undesirable peak hour traffic operations.

Traffic operations at *unsignalized two-way stop controlled intersections* are given LOS rankings based on conflicting traffic flows and anticipated control delays related to conflicting minor movement traffic flows. These conflicting flows are vehicular, pedestrian, and bicycle turning movements at an intersection that potentially must yield the right-of-way to other traffic movements at an intersection. Examples of these conflicting movements would be left turns from a major street to a minor side street (across the opposing flow of traffic), or left and right turns from a minor street or side street to the major street. *LOS's are only given for conflicting movements at unsignalized intersections.* The LOS ranking at an ***unsignalized intersection*** is determined by calculating the average total control delay in seconds per vehicle for conflicting traffic movements. Total control delay is the total elapsed time from when a vehicle stops at the end of a queue until the time when a vehicle departs from the stop line and enters the traffic stream. The average total delay for any particular minor movement is a function of the traffic demand flow rate and the capacity of the approach.

For ***unsignalized intersections***, average total delay of less than 10 seconds per vehicle is defined as LOS A. According to the 2010 Highway Capacity Manual, total delay of 50 seconds per vehicle is the break point between LOS E and F. LOS F exists when there are an insufficient number of gaps available to allow a conflicting demand to safely cross a major street traffic movement.

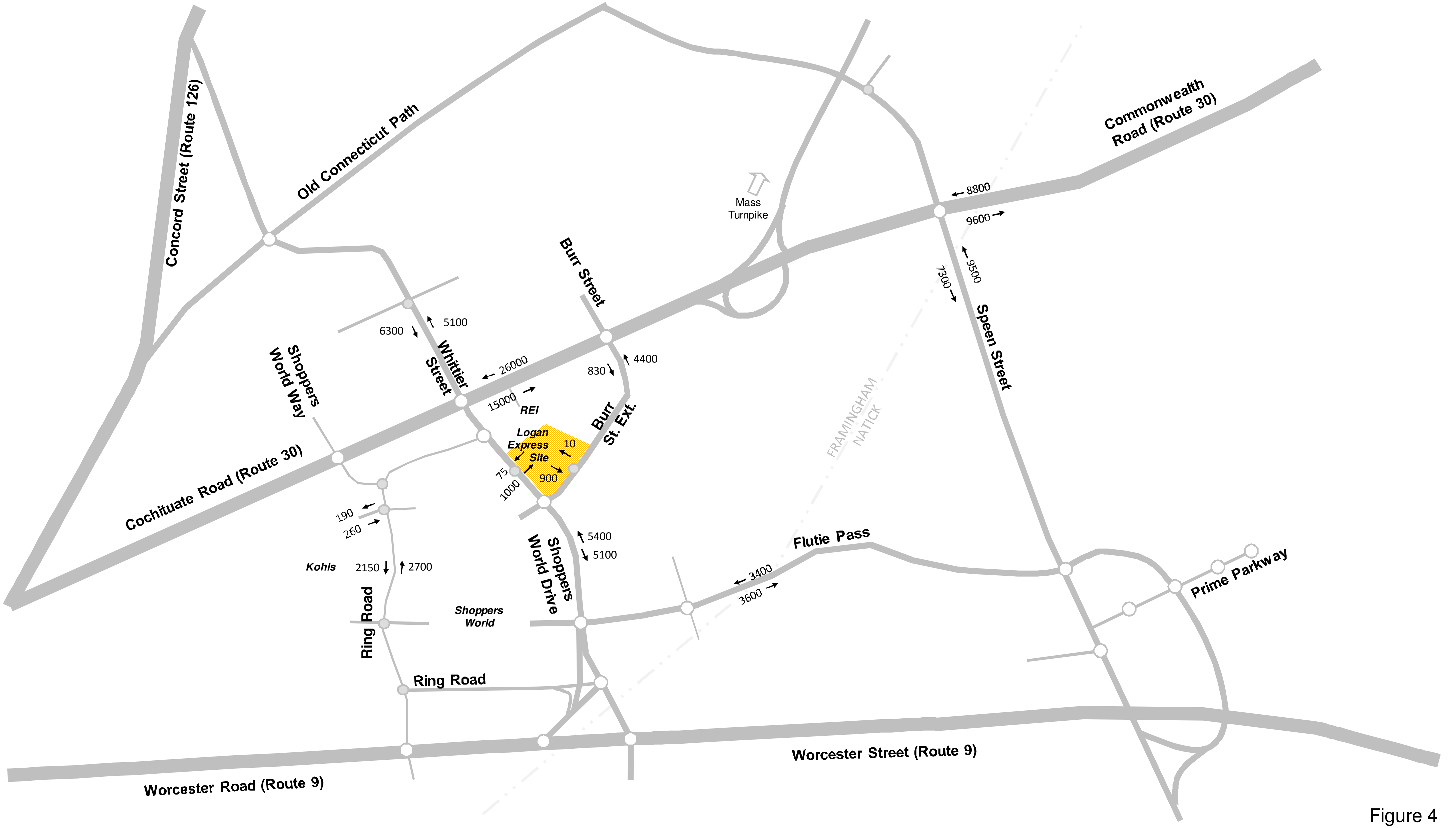

Figure 4

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Schematic Diagram:
Not to Scale

massport

2013 ADT Traffic Volumes

Logan Express – Framingham

January 2014

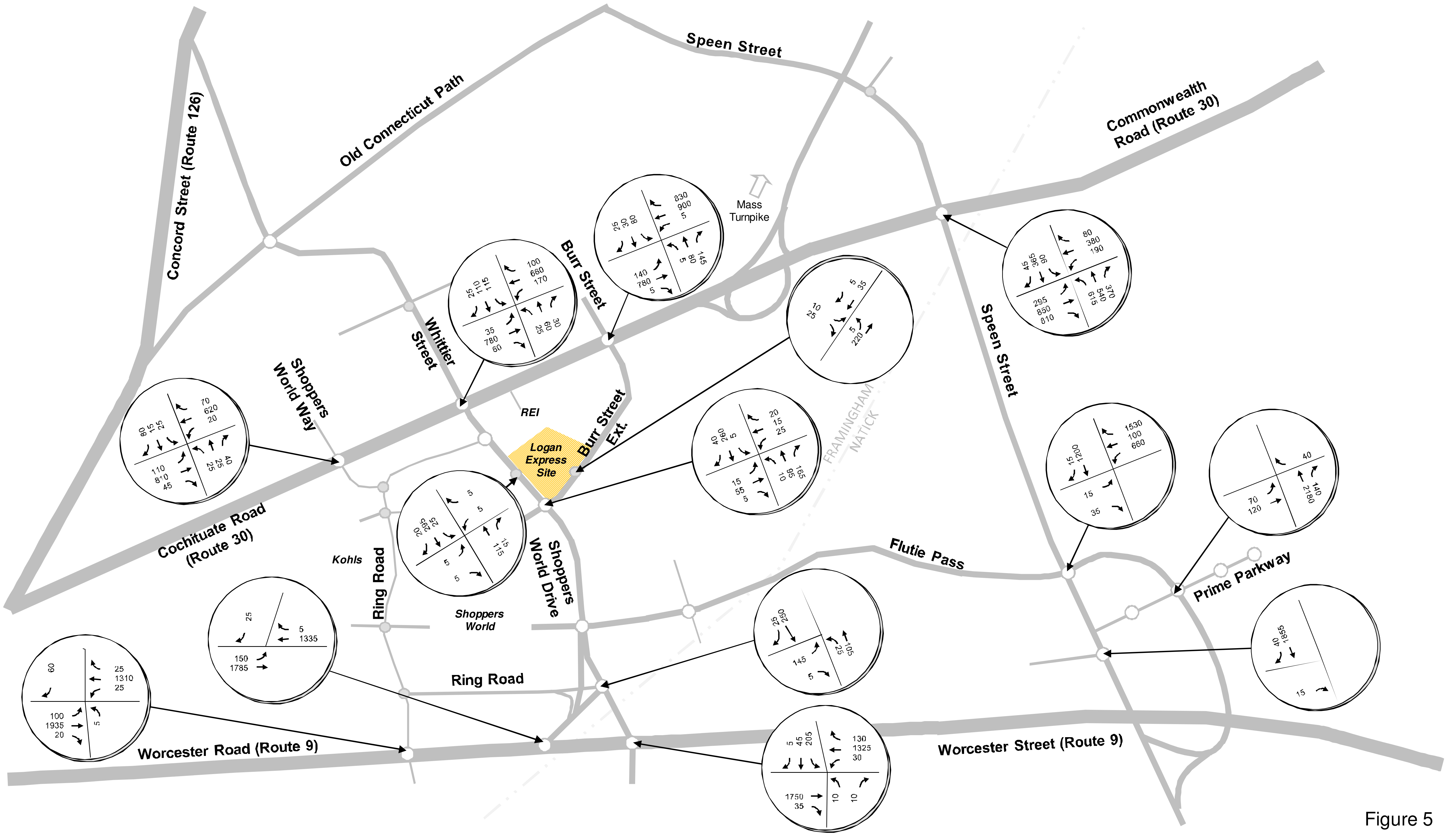

Figure 5

Schematic Diagram:
Not to Scale

2013 AM Peak Hour Traffic Movement Volumes

Logan Express – Framingham

January 2014

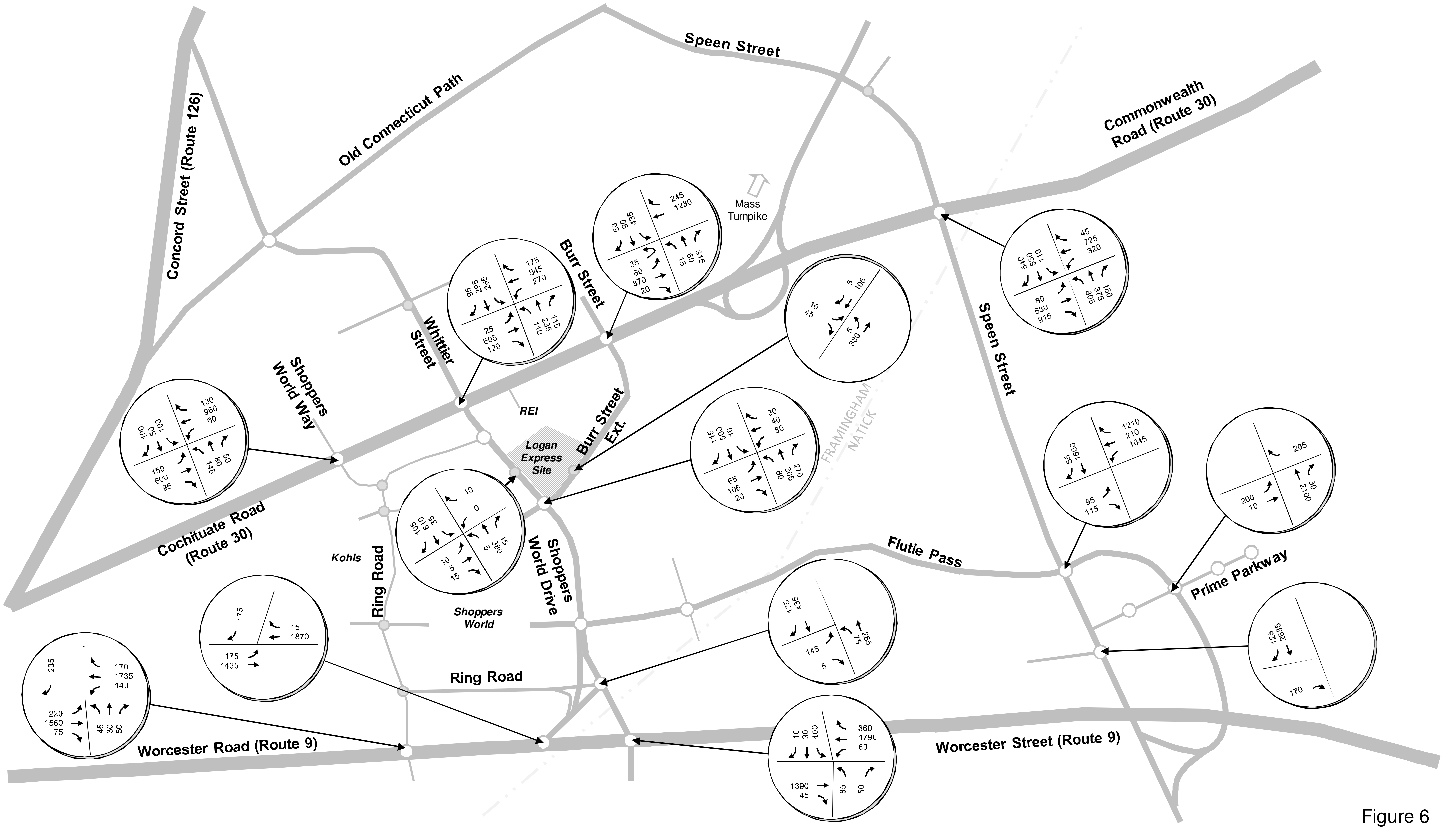

Figure 6

Schematic Diagram:
Not to Scale

2013 PM Peak Hour Traffic Movement Volumes

Logan Express – Framingham
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Signalized intersections have different criteria for acceptable total delay than unsignalized intersections. At ***signalized intersections***, higher total delay values are generally considered to be more acceptable than at unsignalized intersections. While the LOS A criteria is the same as at unsignalized intersections, LOS F involves 80 seconds of total control delay; 30 seconds more than unsignalized intersections.

The relationship between LOS and average total delay at unsignalized and signalized intersections is summarized in Table 1.

Table 1

Intersection Level of Service Criteria

Level of Service	**Unsignalized Intersections** Average Total Delay Range* (seconds/vehicle)	**Signalized Intersections** Average Total Delay Range* (seconds/vehicle)
A	≤10	≤10
B	>10 and ≤15	>10 and ≤20
C	>15 and ≤25	>20 and ≤35
D	>25 and ≤35	>35 and ≤55
E	>35 and ≤50	>55 and ≤80
F	>50	>80

* Source: HCM 2010, Transportation Research Board

Capacity analyses were performed using the SYNCHRO 8 program for signalized intersections and the Highway Capacity Software program for unsignalized intersections at the FLEX site driveways. SYNCHRO 8 was used because it provides signal coordination analysis along with capacity level of service analyses in accordance with the 2010 HCM[1] and is approved for use by MassDOT. Table 2 summarizes existing levels of service at the intersections studied. Refer to the Technical Appendix for detailed intersection level of service analysis reports.

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[1] 2010 Highway Capacity Manual, Transportation Research Board.

Table 2

Existing Level of Service and Delay[1]

2013 AM (PM) Peak Hour

Intersection	**Average Total Delay** (seconds/vehicle)	**Volume to Capacity Ratio** (v/c)	**Level-of-Service** (LOS)
Signalized			
Shoppers World Way/Cochituate Road (Route 30) /Ring Road	6 (5)	0.78 (0.80)	A (A)
Whittier St/Shoppers World Drive/Cochituate Road (Route 30)	17 (67)[2]	0.70(1.00+)	B (E)
Burr Street/ Cochituate Road (Route 30)	26 (25)	1.00+ (0.76)	C (C)
Shoppers World Drive/Burr Street	11 (17)	0.38 (0.62)	B (B)
Shoppers World Drive/Flutie Pass	4 (9)	0.27 (0.54)	A (A)
Ring Road/ W Couplet/Shoppers World Drive	4 (5)	0.52 (0.77)	A (A)
Worcester Road (Route 9)/Shoppers World Drive/Michael's Driveway	11 (18)[2]	0.61 (0.86)	B (B)
Shoppers World Drive/Ring Road West Couplet	4 (5)	0.52 (0.77)	A (A)
Worcester Road (Route 9)/Ring Road West Couplet	3 (3)	0.75 (0.78)	A (A)
Worcester Road (Route 9)/West Driveway/Bed Bath Drive	14 (13)	0.67 (0.82)	B (B)
Speen Street at Cochituate Road (Rte. 30)	76(136)	1.00+ (1.00+)	E (F)
Unsignalized			
Shoppers World Drive /FLE Driveway[3]	EB 10 (EB 19)	0.03 (0.16)	A (C)
Burr Street/FLE Driveway[3]	SB 9 (SB 10)	0.04 (0.07)	A (A)

1 Reported results from Synchro Version 8 analysis. Levels of Service are from A-F, where A is the best and F the worst. Seconds of delay rounded to nearest second during the highest 15-minute period of the AM or PM peak hours and represents total control delay per motorist including acceleration, deceleration, and stop delays. V/C (volume to capacity) is for the worst individual traffic movement in the intersection. Synchro 8 has some known reporting problems when intersections do not have standard National Electrical Manufacturers Association (NEMA) phasing sequences.

2 Per HCS 2010 recommendation, Synchro 8 modeling cannot be used for the existing lane configurations at this intersection where an exclusive turn is next to a shared turn lane. LOS's reported from HCS+ as recommended by the University of Florida. "Until HCS 2010 is modified, the Signals module from HCS+ can be used to model this situation."

3 Worst unsignalized intersection approach is reported.

From Table 2, only the intersection of Speen Street with Cochituate Road (Route 30) has an LOS E or capacity conditions during the morning peak hour.   None of the remaining Study Area intersections operate worse than LOS A-D during the AM peak hour.

However, during the afternoon peak hour, two Cochituate Road intersections – with Speen Street and Whittier Street/Shoppers World Drive -- operate with congestion at LOS F.

During both the morning and afternoon peak hours, the unsignalized driveway intersections of the FLEX site driveway with Shoppers World Drive and Burr Street operate at LOS A-C. Similarly, the signalized intersection of the Burr Street and Shoppers World Drive are operating at LOS A-C.

Origin/Destination Survey of Framingham Logan Express Lots

On August 5, 2013, an O-D survey was conducted of drop-off /pick-up, and long-term parking users at the FLEX site and the Kohl's overflow lot. The license plate survey took place between the hours of 7-9 AM and involved a total sample size of 683 vehicles. Information contained in the license plate survey assisted in compiling a distribution pattern for Future FLEX traffic.

In order, communities with two or more drop-off/pick-up license plates, representing approximately 82% of the 169 vehicles surveyed were, in descending order:

- Framingham (16)
- Natick (14)
- Marlborough (5)
- Sudbury (5)
- Worcester (4)
- Holliston (3)
- Hudson (3)
- Medway (3)
- Ashland (2)
- Dover (2)
- Maynard (2)
- Newton (2)
- Shrewsbury (2)
- Southborough (2)
- Wayland (2)
- Wellesley (2)

Similarly, long term parkers at the main FLEX site originated in the following communities, representing 85% of the 386 vehicles surveyed, with two or more plates:

- Framingham (19)
- Ashland (13)
- Marlborough (11)
- Hopkinton (10)
- Natick (10)
- Northampton (10)
- Holliston (9)
- Southborough (8)
- Medway (7)
- Shrewsbury (7)
- Westborough (6)
- Acton (5)
- Amherst (5)
- Hudson (5)
- Worcester (5)
- Milford (4)
- Newton (4)
- Northborough (4)

- Wellesley (4)
- Boston (3)
- Chicopee (3)
- Clinton (3)
- Franklin (3)
- Longmeadow (3)
- Springfield (3)
- Upton (3)
- Belchertown (2)
- Bellingham (2)
- Cambridge (2)
- Grafton (2)
- Uxbridge (2)
- Hampden (2)
- Holden (2)
- Holyoke (2)
- Lowell (2)
- Maynard (2)
- Medfield (2)
- Millis (2)
- Northbridge (2)
- Princeton (2)
- Sterling (2)
- Sudbury (2)
- Westfield (2)

Parkers at the Kohl's lot overflow parking lot originated in the following communities, representing 50% of the 125 vehicles surveyed, with two or more plates:

- Framingham (10)
- Worcester (9)
- Holliston (5)
- Grafton (4)
- Marlborough (3)
- Medway (3)
- Amherst (2)
- Auburn (2)
- Uxbridge (2)
- Westfield (2)
- Hopkinton (2)
- Natick (2)
- Northampton (2)
- Southbridge (2)
- Sturbridge (2)
- Sudbury (2)
- Sudbury (2)

Historical Crash Data Review – 2009-2011

FST contacted Massachusetts Highway Department Bureau of Transportation Planning and Development to obtain historical trends in traffic crashes in the project study area between 2009 and 2011, the latest three-year crash data period available from MassDOT. Crash data includes only reported crashes with greater than $1,000 in property damage. This particular study area presents substantial crash tabulation difficulties because much of the area is on private property and precise locations are more difficult to identify, as many of the driveways are unmarked or referenced by different names (e.g., Shoppers World Drive is sometimes referred to as the North-South Connector and Ring Road). The average statewide / (District 3) crash rates are 0.80/ (0.89) crashes per million entering vehicles for signalized intersections and 0.60 / (0.66) crashes per million entering vehicles at unsignalized intersections. Table 3 summarizes FLEX study area crash data from 2009 to 2011. Details are contained in the Technical Appendix to this report, including MassDOT crash rate calculation forms for intersections where 5 or more crashes per year were reported.

Table 3

Framingham, MA – Logan Express Study Area Crash Data Summary – 2009-2011[1]

	Number of Crashes[1]		*Number by Severity*			*Number by Crash Type*[1]				*Calculated Crash Rate* [2]
Intersection	**Av./ Year**	**3 Yr. Total**	**PDO**[3]	**INJ**[4]	**FATAL**	**Angle**	**Rear End**	**Pedestrian Bike**	**Other**	**2009-2011**
Cochituate Road (Route 30) at Burr Street	6.33	**19**	12	7	-	7	5	-	7	0.42
Cochituate Road (Route 30) at Whittier and Shoppers World Drive	9	**27**	19	7	-	9	13	-	5	0.64
Route 30 at Shoppers World Way and Ring Road	7	**21**	20	1	-	10	7	-	4	0.62
Shoppers World Drive at Burr Street	1.33	**4**	3	1	-	3	1	-	-	0.21
Shoppers World Drive at West Couplet Ring Road	1	**3**	2	1	-	1	1	-	-	0.25
Shoppers World Drive at Worcester Road (Route 9)	14.67	**44**	34	10	-	9	30	-	5	0.85 [5]
Worcester Road (Route 9) at West Couplet Ring Road	4.67	**14**	11	3	-	3	8	-	3	0.31
Worcester Road (Route 9) at Ring Road West	14.67	**44**	31	11	-	10	23	-	11	0.83 [5]
Shoppers World Drive at Burr Street	0.33	**1**	-	-	-	1	-	-	-	0.07
Speen Street at Superior Drive and Natick Mall Drive	11	**33**	28	5	-	2	14	-	17	0.93 [5]
Speen Street at Superior Drive	27	**81**	73	8	-	12	36	-	28	2.66 [5]
Prime Parkway at Mathworks Northern Parking Lot[6]	0	**0**	-	-	-	-	-	-	-	0
Prime Parkway at Mathworks Southern Parking Lot[6]	0	**0**	-	-	-	-	-	-	-	0
Speen Street at Cochituate Road (Route 30)	20.67	**62**	38	20	-	30	20	-	8	0.99 [5]
Shoppers World Drive at Flutie Pass	3.3	**10**	7	2	-	4	1	-	5	0.48
Shoppers World Drive at Burr Street	2	**6**	3	3	-	4	1	-	1	0.24
Shoppers World Way at Route 30	0.7	**2**	1	1	-	1	-	-	1	0.06

1. Reported crashes as summarized by the Massachusetts Highway Department from Registry of Motor Vehicles statistics. Data excludes unreported crashes with less than $1,000 in damage.
2. Crash rate in accordance with Crash Rate calculation procedures
3. PDO – Accident involving Property Damage Only

4. INJ – Accident involving personal injuries.
5. Intersection *exceeds* average statewide or District 3 crash rate.
6. No crashes were found at these locations. This is probably because the intersecting driveways with Prime Parkway are privately owned.

Five of the study area signalized intersections exceeded statewide or District 3 crash rates for signalized intersections. In order of severity, they are:

- Speen Street at Superior Drive

  With 81 total reported crashes, this intersection operates in two phases including simultaneous left and right turns with an upstream weave that may be contributing to the very high 2.66 crashes per million entering vehicles rate calculated for the three-year reporting period.

- Speen Street at Cochituate Road (Route 30)

  With 62 total reported crashes, this intersection has a relatively high occurrence of angle and rear end collisions and 0.99 crashes per million entering vehicles rate calculated for the three-year reporting period.

- Speen Street at Natick Mall Drive/Superior Drive

  With 33 total reported crashes, this intersection has merging turn lanes close to a downstream weave may be contributing to the 0.93 crashes per million entering vehicles calculated for the three-year reporting period.

- Worcester Road (Route 9) at Shoppers World Drive

  With 44 total reported crashes, this intersection has a relatively high occurrence of rear end collisions on Worcester Road (Route 9) that is contributing to its 0.85 crashes per million entering vehicles during the three-year reporting period. While exceeding the statewide crash rate, the calculated rate is lower than the District 3 average crash rate of 0.89 crashes per million entering vehicles.

- Worcester Road (Route 9) at the Ring Road West

  Also with 44 total reported crashes, this intersection also has a relatively high occurrence of rear end collisions on Worcester Road (Route 9) that is contributing to its 0.83 crashes per million entering vehicles during the three-year reporting period. Again, while exceeding the statewide crash rate, the calculated rate is lower than the District 3 average crash rate of 0.89 crashes per million entering vehicles.

Potential crash reduction factors at each of the above intersections are discussed further on.

III. FUTURE (2020) TRAFFIC CONDITIONS WITHOUT THE FRAMINGHAM LOGAN EXPRESS GARAGE

Year 2020 Access and Traffic Growth Assumptions

To assess Year 2020 traffic conditions in the area – garage opening year plus five years -- future infrastructure and development information was obtained from the Towns of Framingham and Natick. Framingham and Natick do not anticipate programmed infrastructure modifications that will affect traffic conditions in the study area. Figure 7 shows their locations within the Study Area.

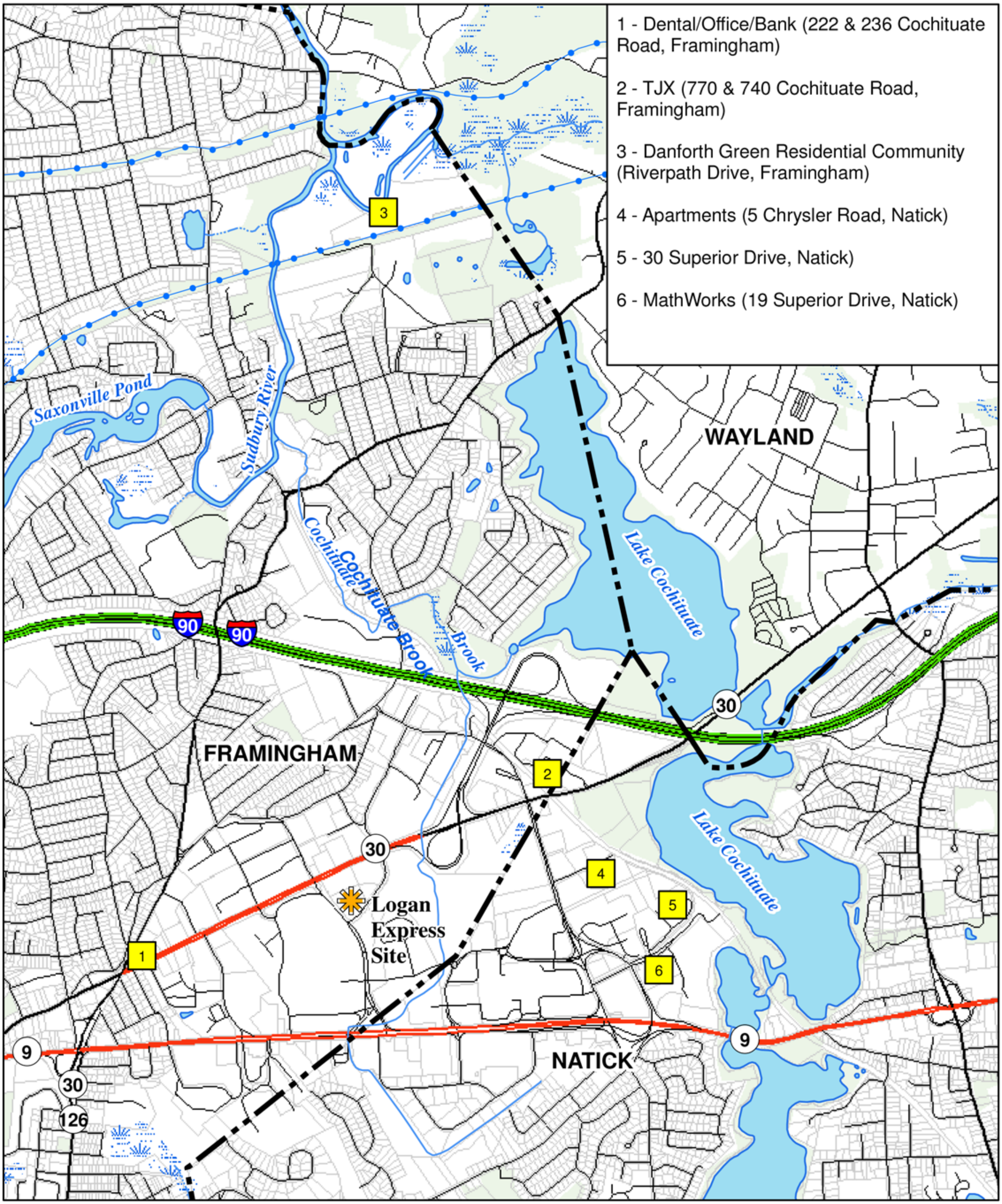
On the basis of the information obtained, Table 4 below summarizes a list of developments and potential AM/PM trips that are approved for construction and could affect future traffic conditions in the vicinity of the FLEX site:

Table 4
Framingham Logan Express Study Area Approved Developments
With Projected AM/PM Peak Hour Trip Generation

Development	Type	Size	AM Entering	AM Exiting	PM Entering	PM Exiting
222 & 236 Cochituate Road, Framingham	Dental Office Bank	4,100 sf[1] 5,700 sf	10 39	5 31	5 74	10 74
TJX – 770 & 740 Cochituate Road, Framingham	Corporate Support Center	96,000 sf[2]	[2]	[2]	[2]	[2]
Danforth Green, Riverpath Drive Apartments, Framingham	Residential	360 units	24	120	115	57
5 Chrysler Road Apartments, Framingham	Residential	404 units	36	137	150	81
FedEx Ground distribution facility 30 Superior Drive, Natick	Package delivery	171,000 sf	118	123	131	114
MathWorks re-occupancy Boston Scientific campus at 19 Superior Drive, Natick	Corporate	460,000 sf 470 spaces	490 180	67 25	43 32	423 155

1 sf- square feet

2 Development is not projected to add new trips, as it supports existing corporate campus with no increases in the campus population or parking supplies.



1 - Dental/Office/Bank (222 & 236 Cochituate Road, Framingham)

2 - TJX (770 & 740 Cochituate Road, Framingham)

3 - Danforth Green Residential Community (Riverpath Drive, Framingham)

4 - Apartments (5 Chrysler Road, Natick)

5 - 30 Superior Drive, Natick)

6 - MathWorks (19 Superior Drive, Natick)

Map Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs

Figure 7 - Logan Express Study Area Approved Developments

Logan Express - Framingham

Feet
0 1,000 2,000 4,000

The following year 2020 No-Build analysis assumptions were made:

- The FLEX services, off-site overflow parking lot leases and access characteristics will remain approximately as they are today.
- Background traffic growth between 2013-2020 will be 0.5% per year or a cumulative of 4% over existing traffic volumes based on projections by Central Transportation Planning Staff. Background growth addresses all development in the area *except* the developments cited on Table 4.
- Projected vehicle trips cited on Table 4 were added to the AM and PM No-Build network volumes in accordance with the site trip distribution pattern provided by reports on each respective development. Refer to the Technical Appendix for a summary of the trips added for each development.

Projected Year 2020 No-Build Traffic Volumes and Operations

On the basis of the assumptions listed on the previous page, year 2020 AM and PM No-Build peak hour traffic volumes were compiled and are illustrated on Figures 8 and 9. Employing the turning movement volumes from Figures 8 and 9, the 2010 HCM[2] capacity analysis methodology used to evaluate existing conditions was employed to evaluate future No-Build conditions. Table 5 summarizes the results of the projected year 2020 No-Build Case traffic operations analysis.

From Table 5, traffic operational levels of service by the year 2020 at the intersections studied are expected to be very similar to the year 2013 existing levels of service identified on Table 2 previously.

Table 5 results indicate nearly the same levels of service and delays will be found during the year 2020 No-Build as year 2013 existing conditions shown on Table 2 previously, with some minor increases in delays and volume to capacity ratios. One exception is the intersection of Whittier Street at Cochituate Road (Route 30) during the morning peak hour. During that peak hour, according to HCM 2010 methodology, this intersection will have an overall LOS F primarily due to increased volumes associated with background development of a regional FedEX facility and the future MathWorks/Boston Scientific site reuse.

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[2] 2010 Highway Capacity Manual, Transportation Research Board.

Table 5
Projected No-Build Level of Service and Delay[1]
2020 AM (PM) Peak Hour

Intersection	Average Total Delay (seconds/vehicle)	Volume to Capacity Ratio (v/c)	Level-of-Service (LOS)
Signalized			
Shoppers World Way/Cochituate Road (Route 30) /Ring Road	6(3)	0.78 (0.80)	A (A)
Whittier St/Shoppers World Drive/Cochituate Road (Route 30)	19(76)	0.71 (1.00+)	B (E)
Burr Street/ Cochituate Road (Route 30)	30 (26)[2]	1.00+(0.76)	C (C)
Shoppers World Drive/Burr Street	11 (17)	0.38 (0.63)	B (B)
Shoppers World Drive/Flutie Pass	4 (9)	0.27 (0.54)	A (A)
Ring Road/ W Couplet/Shoppers World Drive	4 (5)	0.52 (0.77)	A (A)
Worcester Road (Route 9)/Shoppers World Drive/Michael's Driveway	12 (19)[2]	0.69 (0.90)	B (B)
Shoppers World Drive/Ring Road West Couplet	4 (5)	0.52 (0.77)	A (A)
Worcester Road (Route 9)/Ring Road West Couplet	3 (3)	0.76 (0.78)	A (A)
Worcester Road (Route 9)/West Driveway/Bed Bath Drive	15 (12)	0.67 (0.83)	B (B)
Speen Street at Cochituate Road (Rte. 30)	136 (210)	1.00+ (1.00+)	F (F)
Unsignalized			
Shoppers World Drive /FLE Driveway[2]	EB 10 (EB 19)	0.03 (0.17)	B (C)
Burr Street/FLE Driveway[2]	SB 9 (SB 10)	0.04 (0.08)	A (A)

1 Reported results from Synchro Version 8 analysis. Levels of Service from A-F, where A is the best a F the worst. Seconds of delay rounded to nearest second during the highest 15-minute period of tl AM or PM peak hours and represents total control delay per motorist including acceleration, deceleration, and stop delays. V/C (volume to capacity) is for the worst individual traffic movemen the intersection. Synchro 8 has some known reporting problems when intersections do not have standard National Electrical Manufacturers Association (NEMA) phasing sequences.

2 Per HCS 2010 recommendation, Synchro 8 modeling cannot be used for the existing lane configurations at this intersection. LOS's reported from HCS+ as recommended by the University c Florida. "Until HCS 2010 is modified, the Signals module from HCS+ can be used to model this situation."

3 FLE – Framingham Logan Express. Worst unsignalized intersection approach is reported.

IV. FUTURE (2020) TRAFFIC CONDITIONS WITH THE FRAMINGHAM LOGAN EXPRESS GARAGE

Build Circulation Modifications

Consolidation of FLEX parking and bus services to a single site will benefit the FLEX service and operations by making the site a much more reliable 'one-stop' location. As such it will have enough capacity to accommodate long-term peak FLEX parking demands well beyond the year 2020 without requiring the use of overflow parking lots that encroach on retail parking supplies when needed. The enhanced FLEX facility will also greatly increase the bus mode share of trips to Logan Airport, which has positive regional traffic implications by reducing trips between the western Boston metropolitan communities and downtown Boston.

Specifically, the proposed Build Case garage will have a maximum ±1,500 spaces capacity with phased construction. Initially, the garage will contain 1,100 spaces including 61 short term spaces, 20 employee/taxi spaces, and 1,019 long term spaces replacing the existing 18 drop-off/pick-up spaces, three taxi spaces and 854 long-term spaces including the 500 overflow lot spaces. In the long term, Massport proposes a total of 1,419 long term parking spaces plus retention of the 61 short term and 20 employee/taxi spaces. Because most of the short term parking will be located in the garage demands for short term parking should decrease in the future.

With the construction of the new FLEX garage facility, access modifications to the FLEX and Peter Pan bus service access are envisioned to include the following:

- *Existing FLEX site curb cuts – one on the Shoppers World Drive approximately 300 feet north of the Burr Street Extension, and the exit on the Burr Street Extension approximately 130 feet east of Shoppers World Drive will be retained, but enhanced.* The existing two-way Shoppers World Drive will be converted to one-way only inbound operation. The Burr Street exit curb cut closest to Shoppers World Drive will be retained as an exit only for buses and short term users. Neither of these driveways will be usable by long term parkers. All entering bus movements as well as short term drop-off/pick-up vehicles arriving to the site from the north and south will either turn left or right in at the existing Shoppers World Driveway. Non-bus drop-off/pick-up motorists except taxis and Massport employees will be required to exit at Burr Street.

- *The terminal will continue to have four bus bays, but buses will be stacked in a linear manner, no longer needing to stop in locations requiring passengers to cross a bus path when either loading or unloading.* This will provide safer operations for passengers and bus operators than the existing configuration which includes tandem bus loading/unloading.

- *A new long-term 'T' garage entrance/exit intersection will be added to Burr Street approximately 400 feet west of Shoppers World Drive.* Addition of the new curb cut will allow FLEX long-term parking demands to be completely separated from its short term parking demands. An automated ticket dispenser/payment system will be used to control garage operations.

- *It will no longer be necessary for long term parking motorists and Logan Express buses using the service to make extra trips between the main site and the overflow parking areas.* These additional bus and user trips will be eliminated by the consolidation of the Logan Express long-term and short-term parking to one area. The Logan Express service travel time between the site and Logan Airport in Boston should be improved slightly by eliminating the need to circulate and shuttle people between the overflow parking area and the main site.

- *New sidewalks will be provided along the site perimeter for pedestrians on the east side of the North-South Connector and on the north side of the Burr Street Extension.*

Trip Generation Assumptions

The future estimate of trip generation from FLEX Garage was largely based on 48-hour automatic traffic recorder count data obtained during the July 2013 supplemental count program plus the FLEX main lot parking usage and passenger usage data supplied by Massport. The use of *ITE Trip Generation*[3] report rates for Park-Ride lots was not assumed to be applicable, as the ITE rates are associated with typical commuter park-ride lots for public transportation services. Table 6 provides a comparison of existing and projected hour-by-hour trip generation assuming the ±1,500 space FLEX garage is constructed. Table 4 also provides a comparison to existing hour by hour traffic volumes measured at the site on a typical weekday. Trip generation assumptions include the following:

- *The increase in generation of future vehicle trips to and from the FLEX garage will be proportional to the ratio of existing vehicle trips/long-term space. As mentioned previously, it was found that the long-term component of existing site-related trips represents no more than 20% of site-generated trips.* This is a conservative assumption because a portion of the long term arrival trips to the overflow lots are double counted, as users drop by the main site to determine whether parking is available, thereby entering and exiting the main site prior to entering, or exiting, the overflow parking sites.

- *Bus services to and from the site will remain at approximately current levels. This assumes that existing frequencies and schedules for FLEX, Peter Pan, and Greyhound services will be retained in the future.*

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[3] Institute of Transportation Engineers, Trip Generation, 9th Edition, 2012.

Table 6

Comparison of Projected Framingham Logan Express Garage Build Trip Generation
To Existing Trip Generation
Average Weekday (Monday through Friday)

	Total Existing 2013 Site Generation Including FLE + Kohl's			**Projected 2020 Build Total All Traffic Movements**			**Projected Difference (Add-ons)**		
Hour	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
12-1 AM	10	18	28	14	25	38	4	7	10
1-2	4	12	16	5	16	22	1	4	6
2-3	9	17	26	12	23	35	3	6	9
3-4	27	16	43	37	22	59	10	6	16
4-5	44	28	72	60	38	98	16	10	26
5-6	61	36	97	83	49	132	22	13	35
6-7	70	53	123	95	72	168	25	19	45
7-8	60	68	128	82	93	175	22	25	47
8-9	**65**	**55**	**120**	**100**	**85**	**185**	**35**	**30**	**65**
9-10	55	56	111	75	76	151	20	20	40
10-11	74	64	138	101	87	188	27	23	50
11-12	68	76	144	93	104	196	25	28	52
12-1 PM	62	65	127	85	89	173	23	24	46
1-2	62	75	137	85	102	187	23	27	50
2-3	71	71	142	97	97	194	26	26	52
3-4	82	92	174	112	125	237	30	33	63
4-5	**105**	**115**	**220**	**145**	**155**	**300**	**40**	**40**	**80**
5-6	59	64	123	80	87	168	21	23	45
6-7	52	68	120	71	93	164	19	25	44
7-8	64	61	125	87	83	171	23	22	46
8-9	50	77	127	68	105	173	18	28	46
9-10	32	53	85	44	72	116	12	19	31
10-11	30	45	75	41	61	102	11	16	27
11-12	21	40	61	29	55	83	8	15	22
Daily	***1237***	***1325***	***2562***	***1700***	***1815***	***3516***	***463***	***490***	***954***

Source: FST projected estimates assume a 1,500 space garage. During construction 2014-2015, it is assumed the site generation at the temporary former Boston Scientific site will be the equivalent of the existing combined Kohl's + FLEX site traffic demands. Projected peak hour and daily volumes are highlighted in yellow.

- *A substantial portion of traffic movements from the main site to the remote overflow lots will be eliminated after the garage is open. It is assumed that most remote lot users go to the main site before being diverted to the overflow lot sites.*
- *The level of drop-off/pick-up activity will remain at approximately current levels. This is a conservative assumption, as drop-off/pick-up activity trips, by far the largest component of existing FLEX traffic, theoretically will decrease with the construction of the garage.*

From Table 6 on the previous page, on a typical weekday, the FLEX garage is expected to add approximately **954** vehicle trips per day to traffic volumes in the vicinity of the site, and from **65-80** total trips during the AM and PM peak hours. This is a conservative (high side) estimate, as drop-off/pick-up activity should eventually decrease with the enhanced availability of convenient/secure long term parking.

During the morning peak hour, approximately 65 vehicle trips, 35 in and 30 out were added to the local street network, while approximately 80 vehicle trips, 40 in and 40 out were added during the PM peak hour.

Trip Distribution Assumptions

Three sources of information were used to identify the potential trip distribution pattern of the FLEX garage:

1) Existing ground count turning movements at the FLEX site;
2) Results of the new FLEX drop-off/pick-up and long term parking license plate surveys.

A comparison of the two trip distribution pattern sources indicates that the future FLEX trip distribution pattern after construction and occupation of the future garage is likely to be similar to the distribution pattern found during the license survey and exhibited by turning movements at the existing Logan Express driveways Generally, traffic to and from the FLEX facility dilutes relatively quickly, as approximately half the new trips are expected to travel to and from the north on the Shoppers World Drive and half to and from Route 9 intersections. To summarize, the assumed trip distribution pattern based on the license plate survey, and confirmed by the site lot driveway counts is as follows:

- Approximately **36%** to and from the east on Cochituate Road (southbound traffic via the Shoppers World Driveway and north eastbound traffic via Burr Street);
- **13%** to and from the north via Whittier Street;
- **31%** to and from the east on Route 9 via Shoppers World Driveway and
- **13%** to and from the west of Route 9 via Shoppers World Driveway and the West Couplet/Ring Road.
- **7%** to and from the west on Cochituate Road (southbound traffic via Shoppers World Driveway.

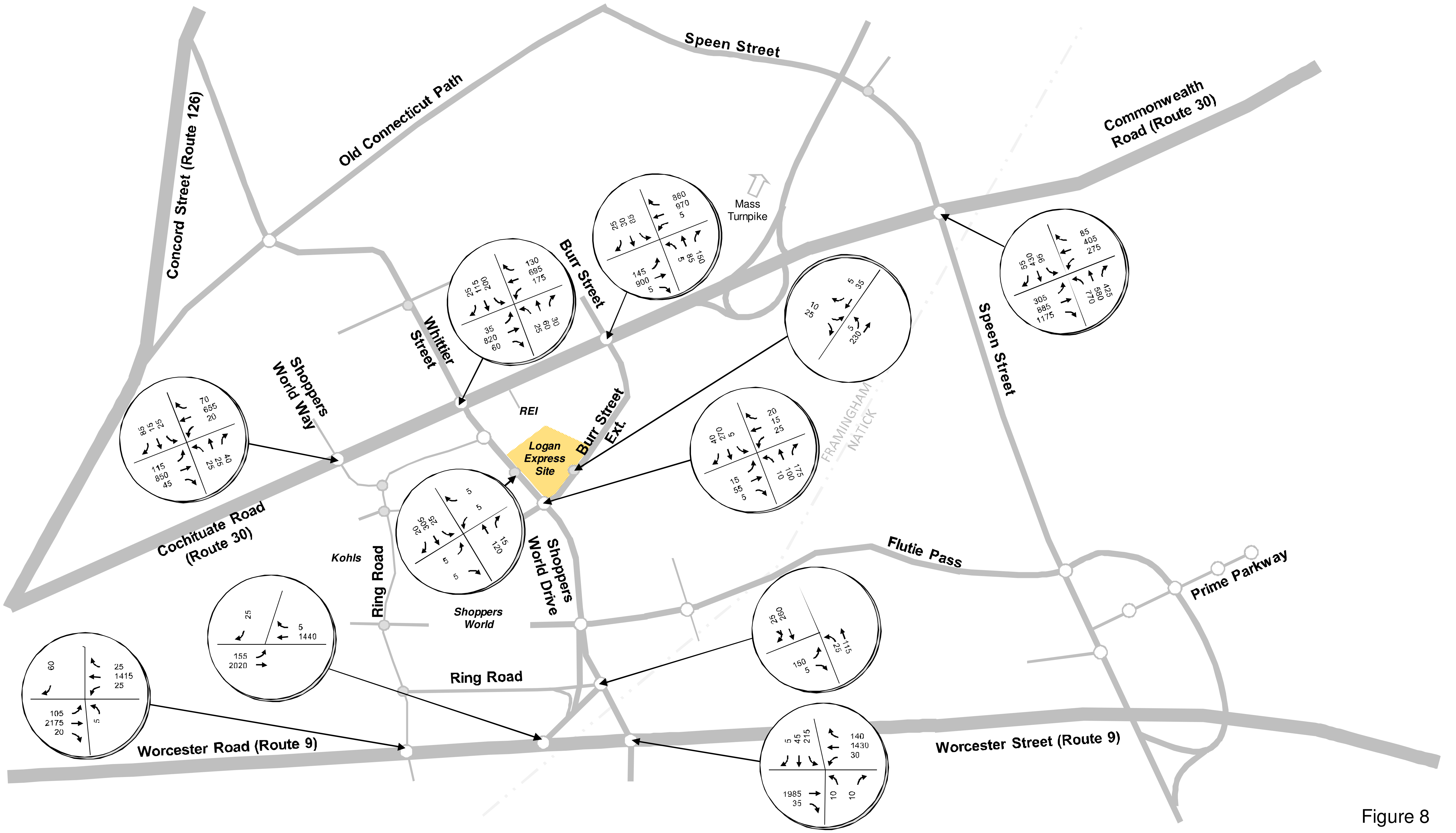


Figure 8

Schematic Diagram:
Not to Scale

2020 No-Build AM Peak Hour Turning Movement Volumes

Logan Express – Framingham
January 2014

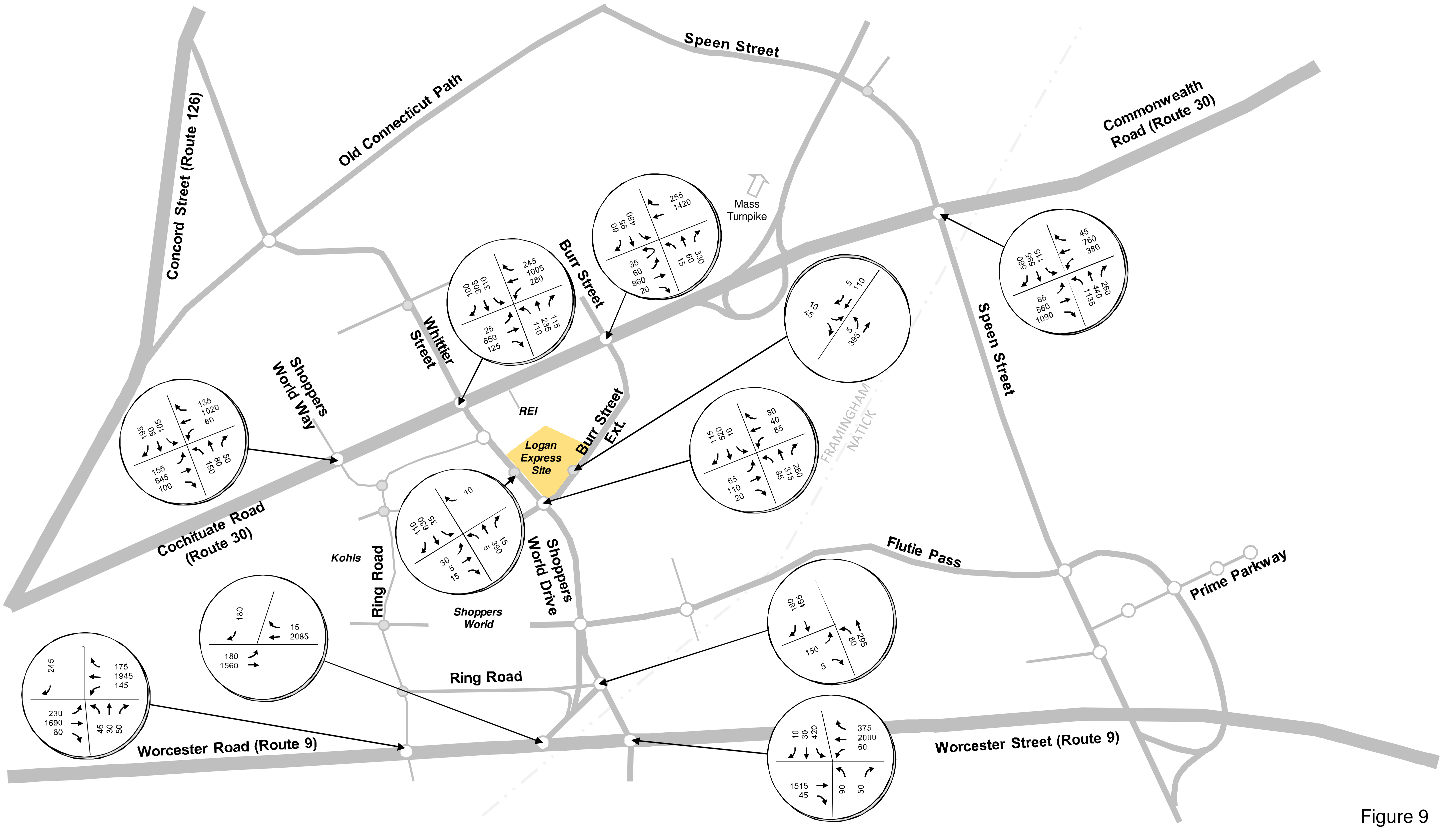


Figure 9

Schematic Diagram:
Not to Scale

2020 No-Build PM Peak Hour Turning Movement Volumes

Logan Express – Framingham
January 2014

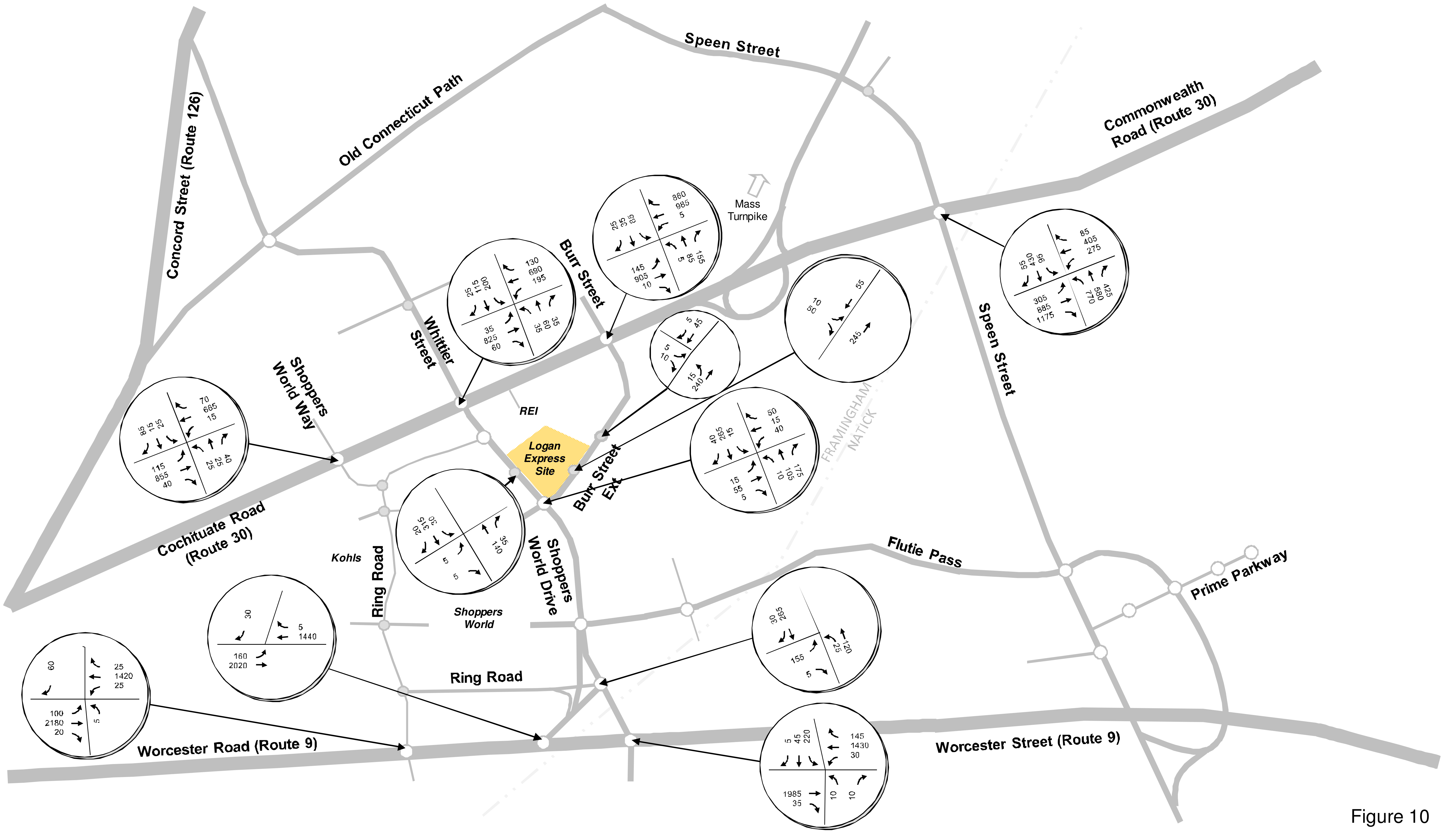


Figure 10

Schematic Diagram:
Not to Scale

2020 Garage Build AM Peak Hour Turning Movement Volumes

Logan Express – Framingham
January 2014

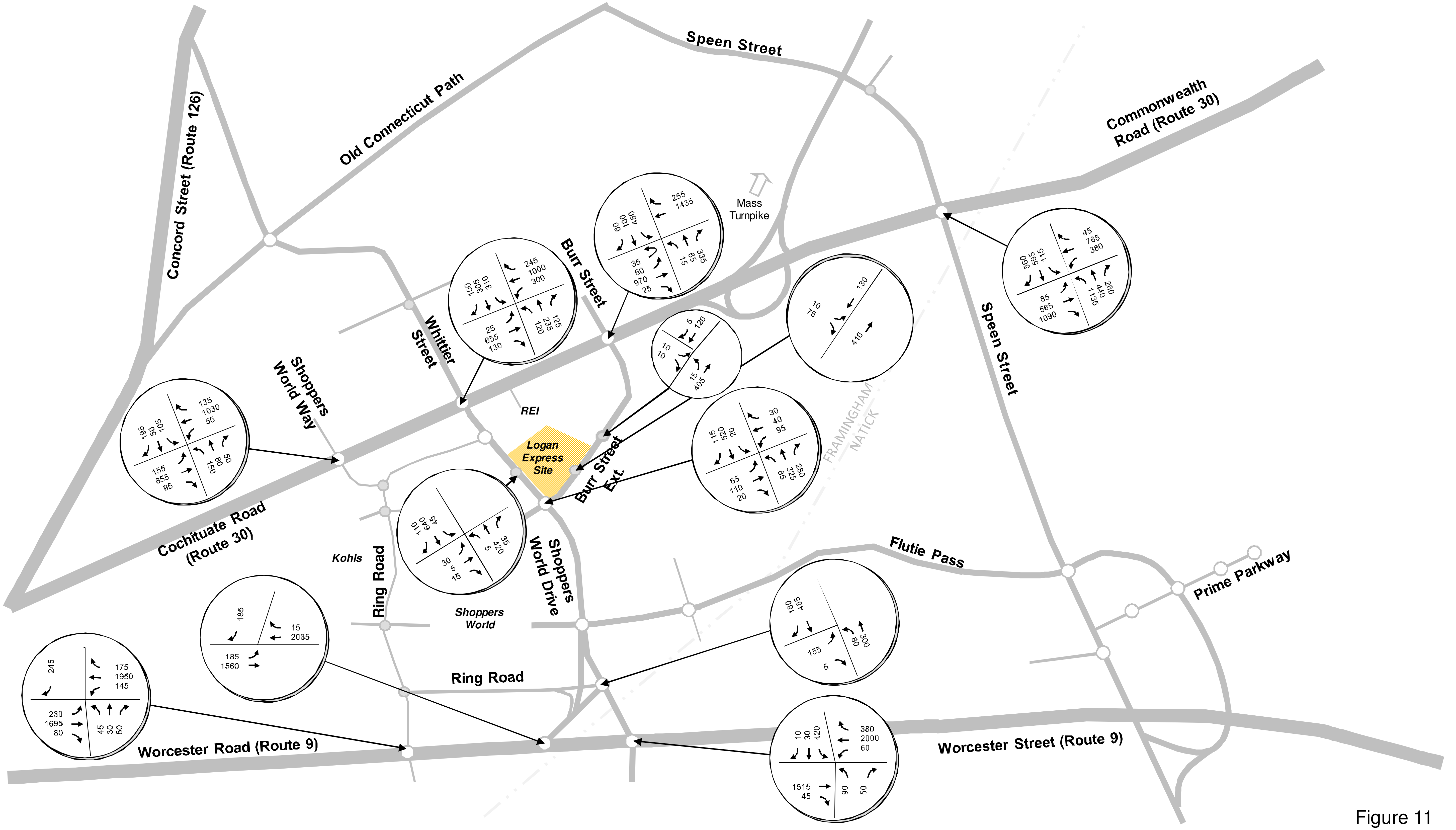


Figure 11

Schematic Diagram:
Not to Scale

2020 Garage Build PM Peak Hour Turning Movement Volumes

Logan Express – Framingham
January 2014

Projected Year 2020 Build Volumes and Peak Hour Traffic Operations

Projected year 2020 Build Weekday AM and PM peak hour traffic volumes are presented on Figures 10 and 11, respectively. With one exception, roadway intersections evaluated are identical to those identified under existing (2013) and No-Build conditions. In the Build case only is a second access onto Burr Street analyzed, where the garage's long term entrance will be located approximately 300 feet east of Shoppers World Drive.

Again, incremental trip-making in the post-construction Build case represents a relatively small amount of additional trip-making through most affected intersections and will not require the re-timing of study area signalized intersections.

Year 2020 levels of service and delays at the signalized intersections throughout the study area are presented on Table 7. Level of service results are *identical with or without the FLEX garage* (refer back to Table 5 for the year 2020 No-Build level of service findings). The only changes found were slight changes (10 seconds or less) in delay and in V/C ratios, which were no more than 0.1.

Table 7

Projected Build Levels of Service and Delay[1]

2020 AM (PM) Peak Hour

Intersection	**Average Total Delay** (seconds/vehicle)	**Volume to Capacity Ratio** (v/c)	**Level-of-Service** (LOS)
Signalized			
Shoppers World Way/Cochituate Road (Route 30) /Ring Road	6(7)	0.78 (0.80)	A (A)
Whittier St/Shoppers World Drive/Cochituate Road (Route 30)	20(77)[2]	0.76 (1.00+)	B (E)
Burr Street/ Cochituate Road (Route 30)	30 (26)	1.00+(0.80)	C (C)
Shoppers World Drive/Burr Street	13 (18)	0.42 (0.653)	B (B)
Shoppers World Drive/Flutie Pass	4 (7)	0.27 (0.54)	A (A)
Ring Road/ W Couplet/Shoppers World Drive	4 (5)	0.52 (0.77)	A (A)
Worcester Road (Route 9)/Shoppers World Drive/Michael's Driveway	12 (19)	0.69 (0.90)	B (B)
Shoppers World Drive/Ring Road West Couplet	4 (5)	0.52 (0.77)	A (A)
Worcester Road (Route 9)/Ring Road West Couplet	3 (3)	0.76 (0.79)	A (A)
Worcester Road (Route 9)/West Driveway/Bed Bath Drive	15 (12)	0.67 (0.83)	B (B)
Speen Street at Cochituate Road (Rte. 30)	136 (211)	1.00+ (1.00+)	F (F)
Unsignalized			
Shoppers World Drive /FLE Driveway[3]	EB 10 (EB 21)	0.03 (0.19)	B (C)
Burr Street/FLE Driveway[3]	SB 9 (SB 10)	0.04 (0.08)	A (A)
Burr St. Ext./ FLE long term parking Driveway 2 entrance/exit[3]	SB 9 (SB 11)	0.01 (0.02)	A (B)

1 Reported results from Synchro Version 8 analysis. Levels of Service are from A-F, where A is the best and F the worst. Seconds of delay rounded to nearest second during the highest 15-minute period of the AM or PM peak hours and represents total control delay per motorist including acceleration, deceleration, and stop delays. V/C (volume to capacity) is for the worst individual traffic movement in the intersection. Synchro 8 has some known reporting problems when intersections do not have standard National Electrical Manufacturers Association (NEMA) phasing sequences.

2 Per HCS 2010 recommendation, Synchro 8 modeling cannot be used for the existing lane configurations at this intersection. LOS's reported from HCS+ as recommended by the University of Florida. "Until HCS 2010 is modified, the Signals module from HCS+ can be used to model this situation."

3 FLE – Framingham Logan Express. Worst unsignalized intersection approach is reported.

Post-construction, by the year 2020, the assumed trip distribution pattern effectively dilutes the impact of the garage to fewer than 40 peak hour trips through all of the intersections analyzed except the signalized intersection of Burr Street at Shoppers World Drive and the three unsignalized FLEX site driveway intersections --one at the Shoppers World Drive and the other two FLEX driveways at Burr Street.

At Study Area intersections, trips will increase due to the re-distribution of vehicle trips to the new FLEX curb cuts, but their projected levels of service will remain acceptable during the year 2020. Because additional traffic add-ons are expected to be less than 1 vehicle per minute at intersections in the study area, we do not anticipate the need to modify signal timing to enhance the performance of intersections. However, we do recommend reviewing and adjusting as necessary clearance intervals to accommodate the most recent MassDOT procedures calculating clearance intervals to provide traffic safety enhancements at signalized intersections where crash rates exceed statewide crash rates.

During construction, when the FLEX main terminal will be unavailable during 2014, regular FLEX operations temporarily will occur at a former Sam's Boston Scientific/ proposed Mathworks site, located in Natick off of Speen Street and Prime Parkway. A discussion of traffic operations while this temporary situation is in force is contained in the next section on Construction Period Impacts.

V. CONSTRUCTION PERIOD (2015) IMPACTS

Construction Period Assumptions

To facilitate a one year construction schedule for the proposed garage it is necessary to clear the FLEX site by relocating FLEX operations from Framingham to a temporary location. The selected location is the parking lot associated with a former Boston Scientific site (now under the control of Mathworks) in the Town of Natick. The buildings and their associated parking lots are currently unoccupied but proposed for occupancy by Mathworks following the temporary use of the site by FLEX. The Mathworks site is located on Prime Parkway approximately 1.4 miles away from the existing FLEX facility, on the eastern side of Speen Street (Figure 12). The existing parking lot will be modified with paint striping and signage to provide approximately 500 parking spaces. The revised site would accommodate a terminal, short and long term site parking, as well as accommodations for bus services now provided at the FLEX terminal. A total of four linear bus spaces will be created just west of the proposed temporary FLEX terminal.

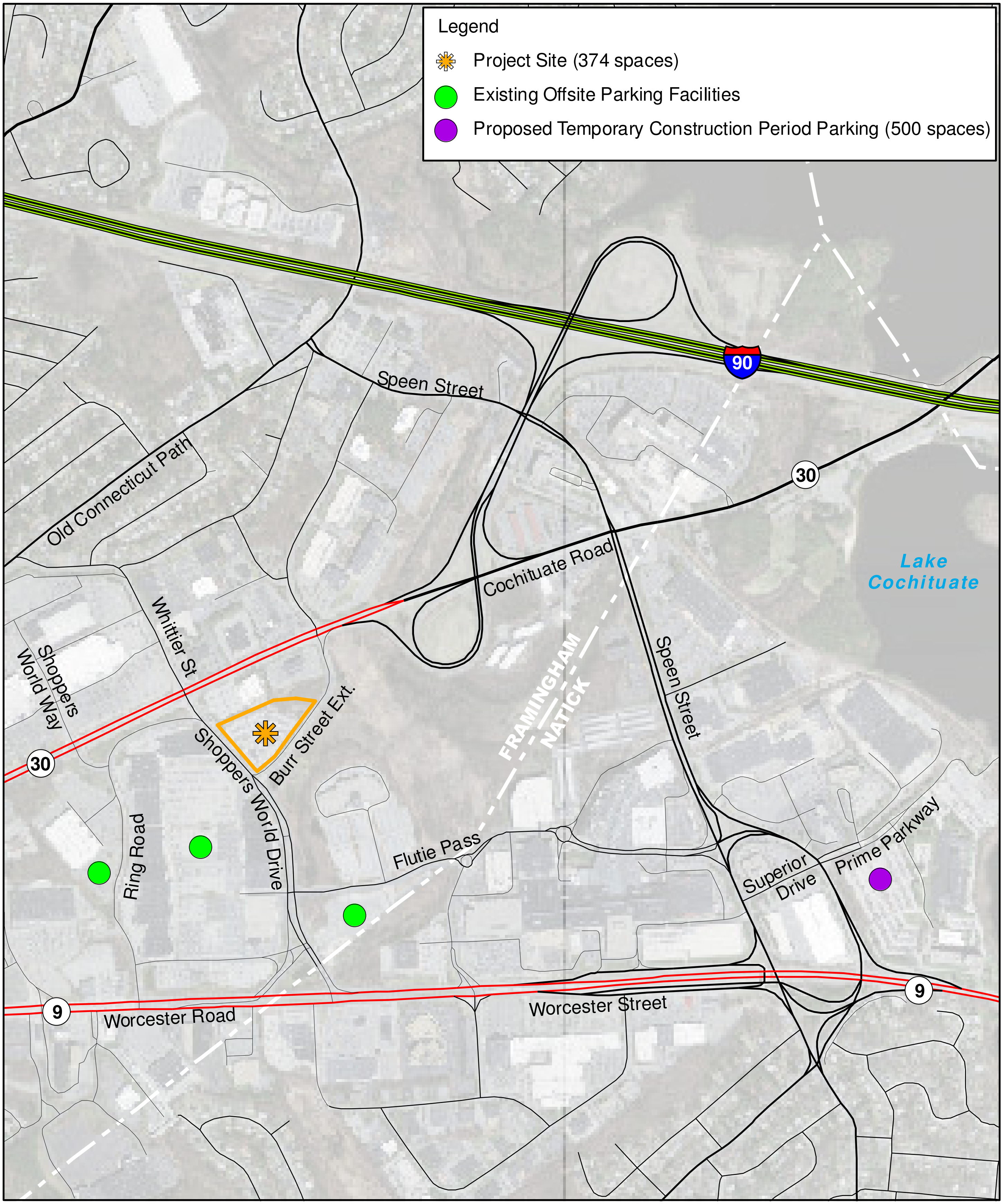
During the one year construction period, all three existing leased overflow lots in the Shoppers World area totaling 500 spaces will remain available to satisfy peak season parking demands as required. This will bring the total construction period parking supply to approximately 1000 vehicles, inclusive of short term and designated employee spaces, a temporary increase of approximately 120 parking spaces in the FLEX parking system. Based on Massport's peak parking demand data for 2013, total parking demands could conceivably be accommodated at the Mathworks site approximately 90% of the time with overflow lots capacity needed only 10% of the time.

Prime Parkway is a two-way median divided roadway that intersects Speen Street at a signalized intersection. The driveway for the temporary FLEX operation intersects Prime Parkway eastbound at an unsignalized intersection.

Traffic volumes in the vicinity of the current FLEX site are projected to remain constant and/or be slightly reduced with the temporary relocation of operations to the Mathworks site. Thus, existing traffic operations in the vicinity of the current FLEX location remain unchanged during the construction period. Consequently, the following construction period analysis is focused along Speen Street where rerouted traffic will increase traffic volumes at four key intersections.

For analysis purposes, we have assumed that the trips attracted to the temporary site will be comparable to the total trips generated by the existing Kohl's plus FLEX site and that the Kohl's overflow parking site will continue to be used. For example, Massport employees or users may, at times, be directed to the Kohl's overflow lot during high demand periods.

For analysis of construction period impacts, we have projected traffic volumes and evaluated traffic operations during a typical 2015 weekday's AM and PM peak hours. Year



Map Source: Office of Geographic and Environmental Information (MassGIS), Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs

Figure 12 - Temporary Parking Location and Existing Parking Facilities

Logan Express - Framingham
January 9, 2013

2015 No-Build and Build AM and PM peak hour volumes are illustrated on Figures 13-16. Year 2015 No-Build AM and PM level of service analysis results are summarized on Tables 8 and 9.

To be conservative, background traffic growth is assumed to be 1% between 2013 and 2015, or 0.5% per year. Additionally, with one exception all of the developments cited in Table 4 of this study are assumed to be in place for the No-Build and Build year 2015 cases. The one exception involves the proposed development of Mathworks on the former Boston Scientific site which as mentioned will not occur until after the temporary use of the site by FLEX.

Table 8

*Projected No-Build Levels of Service and Delay**

2015 AM (PM) Peak Hour

Intersection	**Average Total Delay** (seconds/vehicle)	**Volume to Capacity Ratio** (v/c)	**Level-of-Service** (LOS)
Signalized			
Speen Street at Cochituate Road (Rte. 30)	127 (197)	1.00+ (1.00+)	F (F)
Speen Street East at Superior Drive	46 (37)	0.88 (0.78)	D (D)
Speen Street at Natick Mall Road	11 (22)	0.46 (0.65)	A (C)
Unsignalized			
Temporary FLEX Driveway at Prime Parkway	NA	NA	NA

1 Reported results from Synchro Version 8 analysis. Levels of Service are from A-F, where A is the best and F the worst. Seconds of delay rounded to nearest second during the highest 15-minute period of the AM or PM peak hours and represents total control delay per motorist including acceleration, deceleration, and stop delays. V/C (volume to capacity) is for the worst individual traffic movement in the intersection. Synchro 8 has some known reporting problems when intersections do not have standard National Electrical Manufacturers Association (NEMA) phasing sequences.

2 Per HCS 2010 recommendation, Synchro 8 modeling cannot be used for the existing lane configurations at this intersection. LOS's reported from HCS+ as recommended by the University of Florida. "Until HCS 2010 is modified, the Signals module from HCS+ can be used to model this situation."

3 FLE – Framingham Logan Express. Worst unsignalized intersection approach is reported.

NA – Not Applicable

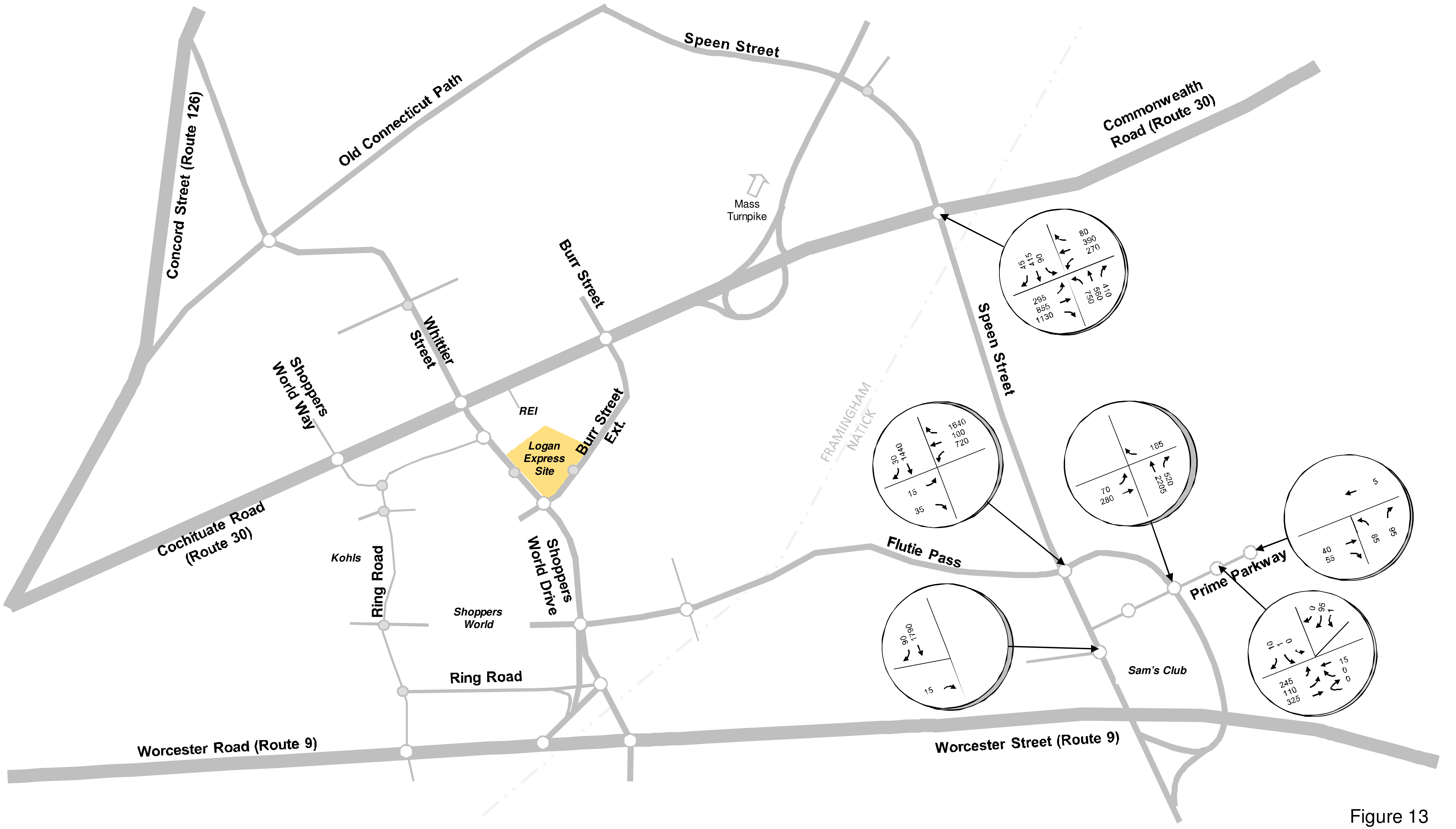


Figure 13

Schematic Diagram:
Not to Scale

2015 No-Build Construction Case AM Peak Hour Traffic Movement Volumes

Logan Express – Framingham
January 2014

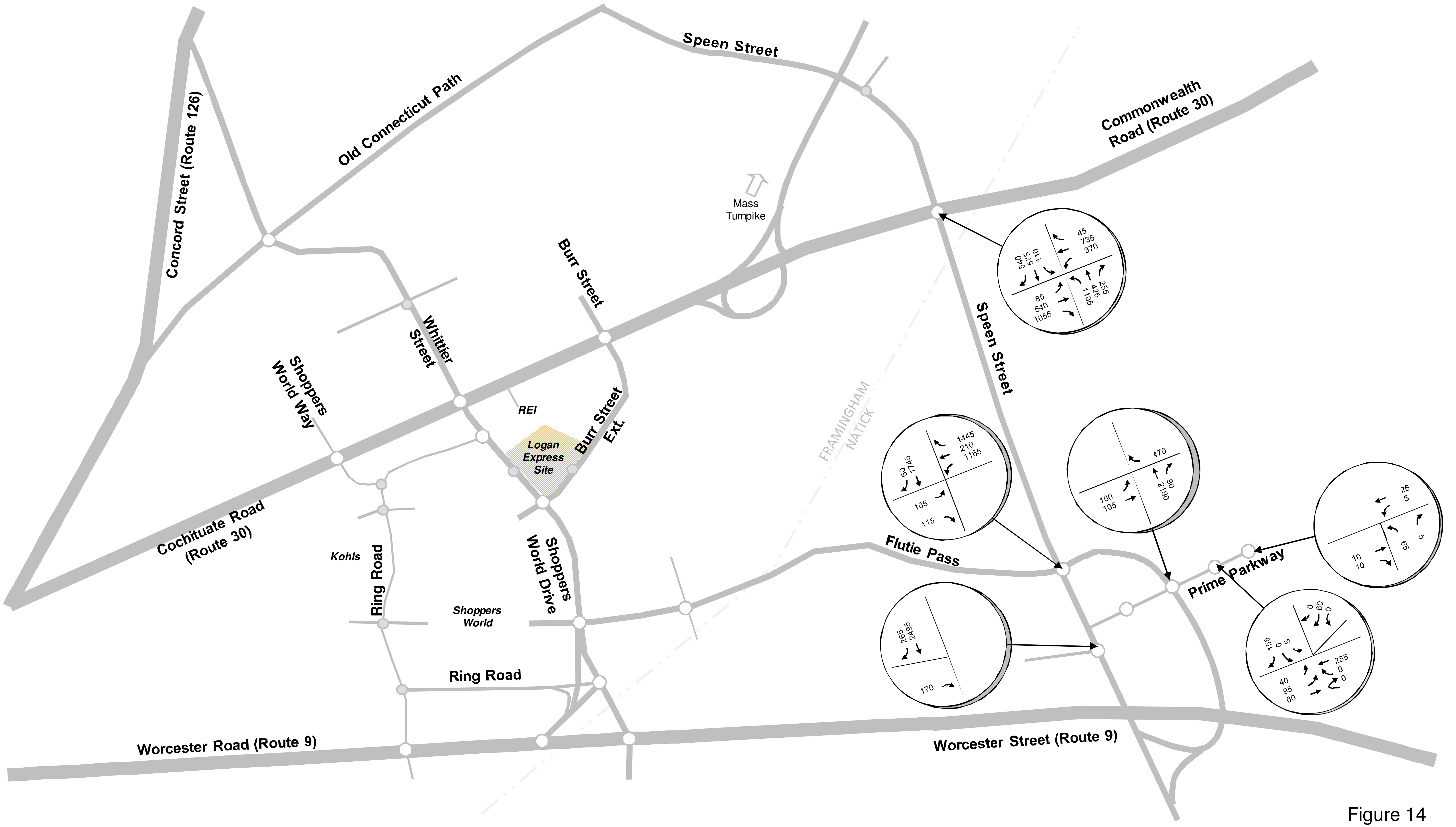


Figure 14

Schematic Diagram:
Not to Scale

2015 No-Build Construction Case PM Peak Hour Traffic Movement Volumes

Logan Express – Framingham
January 2014

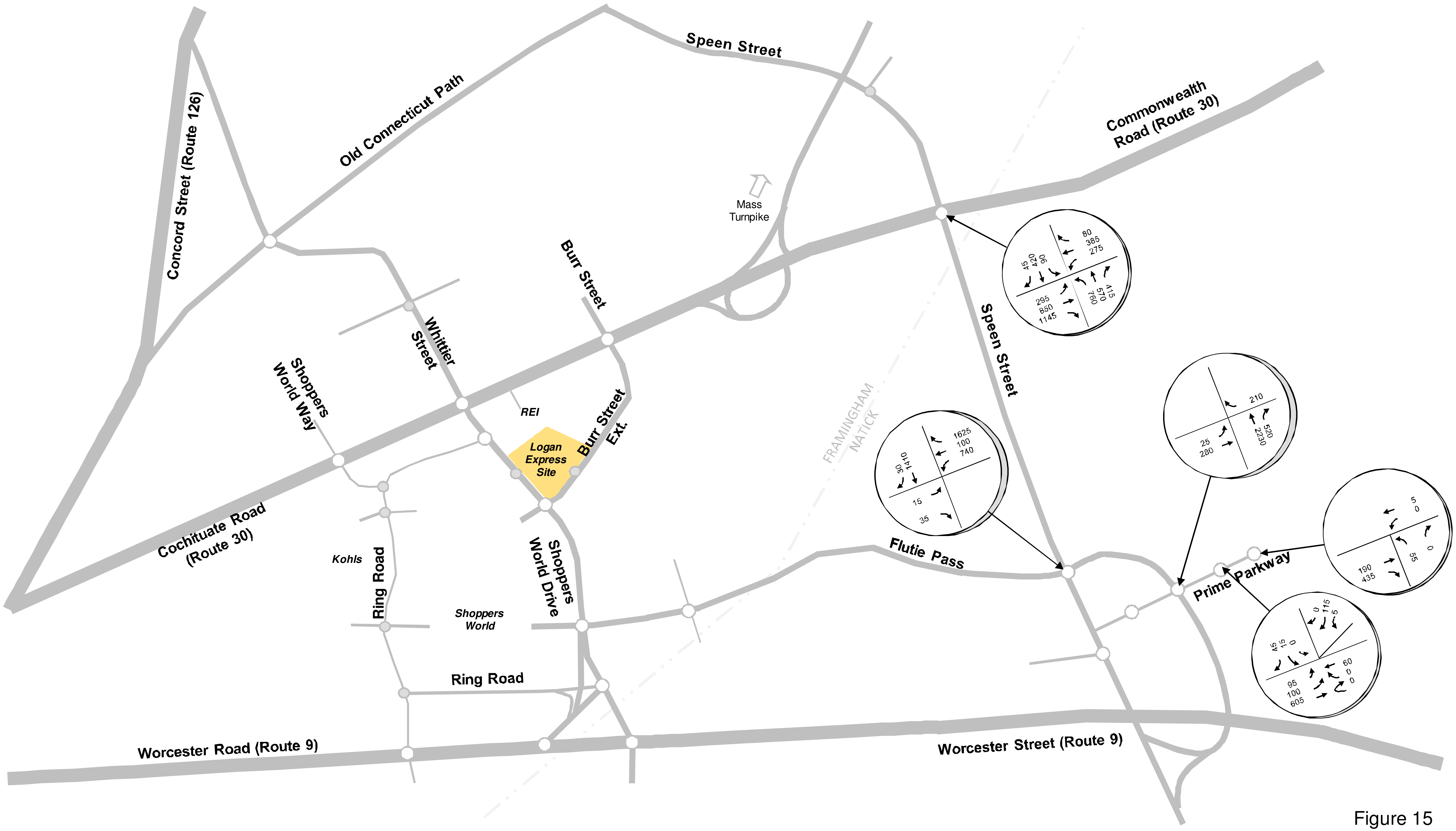


Figure 15

Schematic Diagram:
Not to Scale

2015 Construction Period – AM Peak Hour Traffic Movement Volumes

Logan Express – Framingham

January 2014

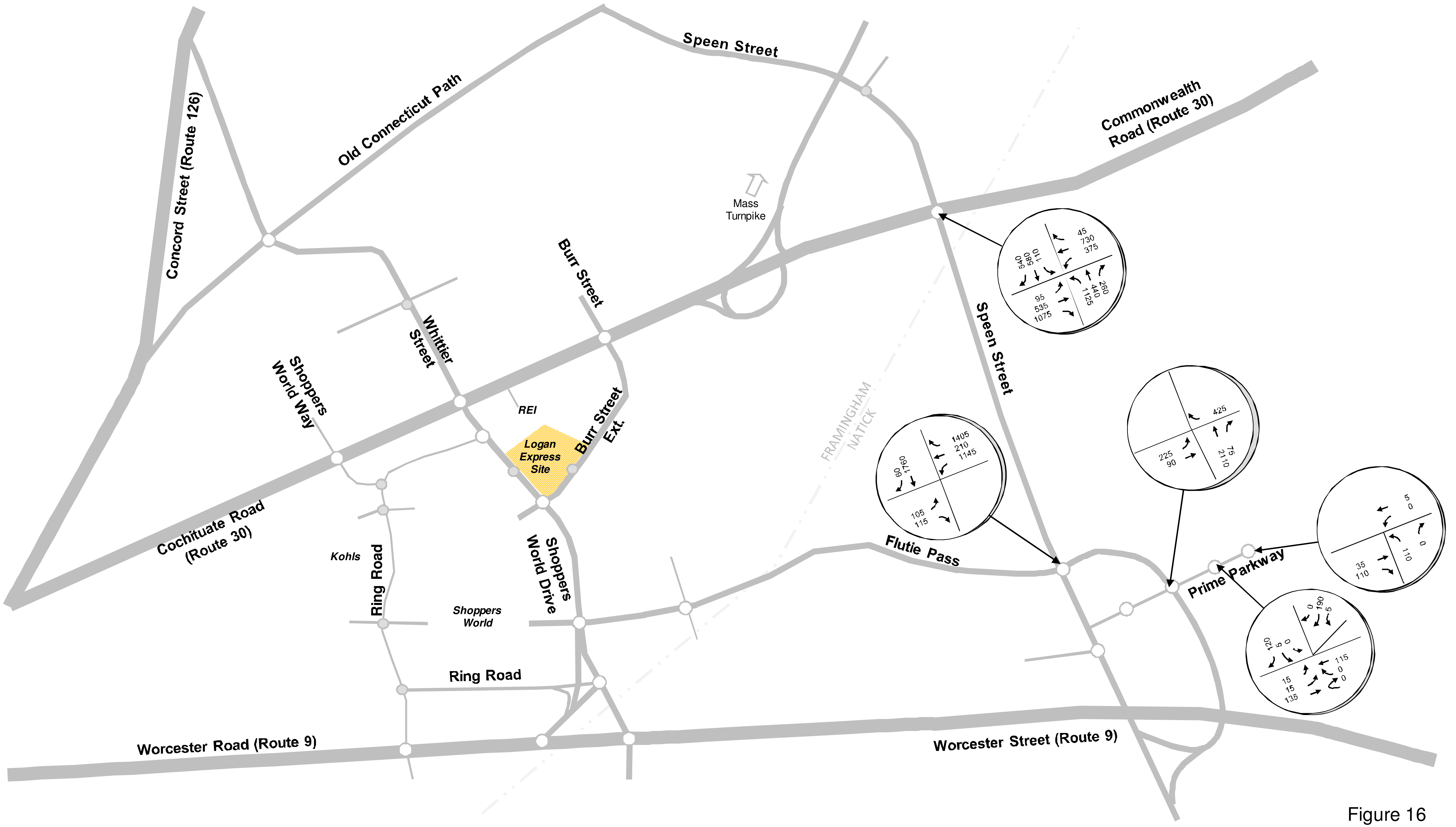


Figure 16

Schematic Diagram:
Not to Scale

2015 Construction Period – PM Peak Hour Traffic Movement Volumes

Logan Express – Framingham
January 2014

Table 9

*Projected Construction Build Levels of Service and Delay**

2015 AM (PM) Peak Hour

Intersection	**Average Total Delay** (seconds/vehicle)	**Volume to Capacity Ratio** (v/c)	**Level-of-Service** (LOS)
Signalized			
Speen Street at Cochituate Road (Rte. 30)	129 (201)	1.00+ (1.00+)	F (F)
Speen Street East at Superior Drive	68 (47)	1.10 (1.0)	E (D)
Speen Street at Natick Mall Road	12 (45)	0.49 (0.73)	B (D)
Unsignalized			
Temporary FLEX Driveway at Prime Parkway	12 (10)	0.1 (0.13)	B (A)

1 Reported results from Synchro Version 8 analysis. Levels of Service are from A-F, where A is the best and F the worst. Seconds of delay rounded to nearest second during the highest 15-minute period of the AM or PM peak hours and represents total control delay per motorist including acceleration, deceleration, and stop delays. V/C (volume to capacity) is for the worst individual traffic movement in the intersection. Synchro 8 has some known reporting problems when intersections do not have standard National Electrical Manufacturers Association (NEMA) phasing sequences.

2 Per HCS 2010 recommendation, Synchro 8 modeling cannot be used for the existing lane configurations at this intersection. LOS's reported from HCS+ as recommended by the University of Florida. "Until HCS 2010 is modified, the Signals module from HCS+ can be used to model this situation."

3 FLE – Framingham Logan Express. Worst unsignalized intersection approach is reported.

Comparing the results of Tables 8 and 9, the intersection of Speen and Cochituate Streets will operate at an LOS F with or without the relocation of FLEX operation. While the intersections of Speen Street at Natick Mall Drive does reflect a minor change in LOS from LOS A in the AM peak hour to LOS B and from LOS C in the PM park way to LOS D these two changes still result in acceptable peak hour operations and the change is only for a 12 month period. Finally, at the intersection of Prime Parkway with Speen Street and Superior Drive, there is a small degradation of LOS in the AM peak period from LOS D to LOS E. Also illustrated on Table 9 is the projected LOS at the intersection of Prime Parkway with the driveway to the relocated FLEX operation. As indicated, LOS at this intersection is projected to be a fully acceptable LOS B in the morning and a LOS B in the afternoon.

While Logan Express adds a relatively small amount of traffic to the four Speen Street intersections included in the construction period analysis, we anticipate overall acceptable levels of service with slightly increased delay.

VI. FINDINGS AND RECOMMENDATIONS

Findings

On a daily basis the proposed ±1,500-space garage will add approximately 954 vehicle trips to the surrounding road network. On the other hand, it will eliminate approximately 900 longer distance vehicle trips per day to and from Logan Airport. During the morning peak hour, approximately 60 vehicle trips (30 in and 35 out) will be added, while during the evening peak hour, approximately 80 (40 in and 40 out) vehicle trips will be added. However, as mentioned above the ability to access the expanded garage eliminates a similar amount of longer distance peak hour trips to and from Logan Airport.

From a traffic operations perspective, the differences between the year 2020 No-Build and Build local traffic operations are relatively minor. Site FLEX bus operations should improve with the proposed reconfiguration of the terminal, and reduced pedestrian/vehicle conflicts. Overall LOS findings for analyzed cases are presented on Table 10. As indicated, in all cases traffic operations are acceptable with the garage in place and during the temporary relocation of FLEX operations to the Natick site.

Table 10 - Summary of Peak Hour Level of Service and Delay [1]

	Existing 2013 AM (PM)			*Projected 2020 No-Build AM (PM)*			*Projected 2020 Build AM (PM)*		
	Average Total Delay (seconds/vehicle)	**Volume to Capacity Ratio**	**LOS**	**Average Total Delay (seconds/vehicle**	**Volume to Capacity Ratio**	**LOS**	**Average Total Delay (seconds/vehicle**	**Volume to Capacity Ratio**	**LOS**
Signalized Intersections									
Shoppers World Way/Cochituate Road (Route 30) /Ring Road	6 (5)	0.78 (0.80)	A (A)	6(3)	0.78 (0.80)	A (A)	6(7)	0.78 (0.80)	A (A)
Whittier St/Shoppers World Drive/Cochituate Road (Route 30)	17 (67)[2]	0.70(1.00+)	B (E)	19(76)	0.71 (1.00+)	B (E)	20(77)[2]	0.76 (1.00+)	B (E)
Burr Street/ Cochituate Road (Route 30)	26 (25)	1.00+ (0.76)	C (C)	30 (26)[2]	1.00+(0.76)	C (C)	30 (26)	1.00+(0.80)	C (C)
Shoppers World Drive/Burr Street	11 (17)	0.38 (0.62)	B (B)	11 (17)	0.38 (0.63)	B (B)	13 (18)	0.42 (0.653)	B (B)
Shoppers World Drive/Flutie Pass	4 (9)	0.27 (0.54)	A (A)	4 (9)	0.27 (0.54)	A (A)	4 (7)	0.27 (0.54)	A (A)
Ring Road/ W Couplet/Shoppers World Drive	4 (5)	0.52 (0.77)	A (A)	4 (5)	0.52 (0.77)	A (A)	4 (5)	0.52 (0.77)	A (A)
Worcester Road (Route 9)/Shoppers World Drive/Michael's Driveway	11 (18)[2]	0.61 (0.86)	B (B)	12 (19)[2]	0.69 (0.90)	B (B)	12 (19)	0.69 (0.90)	B (B)
Shoppers World Drive/Ring Road West Couplet	4 (5)	0.52 (0.77)	A (A)	4 (5)	0.52 (0.77)	A (A)	4 (5)	0.52 (0.77)	A (A)
Worcester Road (Route 9)/Ring Road West Couplet	3 (3)	0.75 (0.78)	A (A)	3 (3)	0.76 (0.78)	A (A)	3 (3)	0.76 (0.79)	A (A)
Worcester Road (Route 9)/West Driveway/Bed Bath Drive	14 (13)	0.67 (0.82)	B (B)	15 (12)	0.67 (0.83)	B (B)	15 (12)	0.67 (0.83)	B (B)
Speen Street at Cochituate Road (Rte. 30)	76(136)	1.00+ (1.00+)	E (F)	136 (210)	1.00+ (1.00+)	F (F)	136 (211)	1.00+ (1.00+)	F (F)
Unsignalized Intersections									
Shoppers World Drive /FLEX Driveway[3]	EB 10 (EB 19)	0.03 (0.16)	A (C)	EB 10 (EB 19)	0.03 (0.17)	B (C)	EB 10 (EB 21)	0.03 (0.19)	B (C)
Burr Street/FLEX Driveway[3]	SB 9 (SB 10)	0.04 (0.07)	A (A)	SB 9 (SB 10)	0.04 (0.08)	A (A)	SB 9 (SB 10)	0.04 (0.08)	A (A)
Burr St. Ext./ FLEX long term parking Driveway 2 entrance/exit[3]	N/A	N/A	N/A	N/A	N/A	N/A	SB 9 (SB 11)	0.01 (0.02)	A (B)

[1] Reported results from Synchro Version 8 analysis. Levels of Service are from A-F, where A is the best and F the worst. Seconds of delay rounded to nearest second during the highest 15-minute period of the AM or PM peak hours and represents total control delay per motorist including acceleration, deceleration, and stop delays. V/C (volume to capacity) is for the worst individual traffic movement in the intersection. Synchro 8 has some known reporting problems when intersections do not have standard National Electrical Manufacturers Association (NEMA) phasing sequences.

2 Per HCS 2010 recommendation, Synchro 8 modeling cannot be used for the existing lane configurations at this intersection. LOS's reported from HCS+ as recommended by the University of Florida. "Until HCS 2010 is modified, the Signals module from HCS+ can be used to model this situation."

3 FLEX – Framingham Logan Express. Worst unsignalized intersection approach is reported.

Recommendations

Construction Period

During the interim construction phase, when the FLEX will operate temporarily out of the former Boston Scientific site in the Town of Natick, it is recommended that a second stop sign along with a sign stating that vehicles are entering from the right be added to the westbound Prime Parkway approach to the intersection of Prime Parkway with the access road servicing the FedEX facility. This recommendation is based on the unusual angle that the FedEX driveway enters the intersection. Additional research is needed to determine if the FedEX driveway is part of an approved site plan that could require local approval to modify with the proposed signage.

Post-Build

Because Build impacts were found to be relatively small, proposed off-site traffic mitigation measures are limited to the immediate FLEX facility area. Within the site limits, provide ADA/MAAB compliant sidewalks on the north side of the Burr Street Extension and the east side of the Shoppers World Drive.

ATTACHMENT 7
Previous ENF Certificate

Issued February 23, 2001

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
251 Causeway Street, Suite 900
Boston, MA 02114-2119

ARGEO PAUL CELLUCCI
GOVERNOR

JANE SWIFT
LIEUTENANT GOVERNOR

BOB DURAND
SECRETARY

Tel. (617) 626-1000
Fax (617) 626-1181
http://www.magnet.state.ma.us/envir

February 23, 2001

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS ON THE ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME : Logan Express Parking Structure
PROJECT MUNICIPALITY : Framingham
PROJECT WATERSHED : Concord/Sudbury
EOEA NUMBER : 12412
PROJECT PROPONENT : Massachusetts Port Authority
DATE NOTICED IN MONITOR : January 24, 2001

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62H) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project **does not require** the preparation of an Environmental Impact Report (EIR).

As described in the Environmental Notification Form (ENF), the project involves development of a 5-level parking garage at the existing Logan Express facility in Framingham. The Garage will allow Massport to consolidate parking for Logan Express in one location, and will expand the parking supply available to the facility by 331 spaces. Massport will develop the garage entirely within the footprint of existing paved surfaces. As demand warrants, Massport will eventually expand the garage by an additional 400 spaces, again remaining within the footprint of the currently paved surfaces.

The project is undergoing review pursuant to section 11.03 (6)(b)(15) of the MEPA regulations, because the project involves construction of more than 300 new parking spaces at a single location. The project will require an Order of Conditions from the Framingham Conservation Commission for work within the buffer zone to wetlands resources (if the local Order were appealed, the project would require a Superseding Order from the Department of Environmental Protection). Because the proponent is an Authority of the Commonwealth, MEPA jurisdiction extends to all aspects of the project that may cause significant Damage to the Environment.

The project should prove to have significant positive environmental impacts. The expansion in parking supply at Framingham will help Massport meet one of its central mitigation commitments for Logan Airport: the attainment of a 35.2 % transit/HOV mode share by the time annual passenger load reaches 37.5 million (see EOEA #3247). After years of impressive growth in the mid 1990's, ridership on Logan Express has reached a plateau in recent years, in part due to constraints in the parking supply at the Logan Express termini. This project will alleviate the parking constraint at the Framingham terminus, and will also make the Logan Express service more convenient by centralizing parking immediately adjacent to the bus terminal.

Massport will stage construction to minimize disruptions to existing parking, and will rely during construction on existing "remote" spaces leased from tenants at the adjacent shopping center. The project will not create new impervious surfaces, and the existing stormwater management system can accommodate the new development. The ENF includes a traffic study demonstrating that traffic impacts on the surrounding area will prove minor.

I conclude that no further MEPA review is required. The project is itself important mitigation for Logan Airport ground access impacts, and the review of the ENF has served adequately to disclose any (minor) impacts on the immediate surroundings of the expanded facility.

February 23, 2001
Date

Bob Durand, Secretary

Comments received:

2/13/01 Framingham Planning and Economic Development Department
2/14/01 MetroWest Growth Management Committee

BAD/ASP/asp